

85-244H
85-1085-14698

GEOCHEMICAL REPORT
BUCK CREEK PROPERTY

PART
1 OF 5

FILMED

GEOLOGICAL BRANCH
ASSESSMENT REPORT

BPVR 85-37

14,698

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Geochemist

December, 1985

TABLE OF CONTENTS

	<u>PAGE NUMBER</u>
SUMMARY AND CONCLUSIONS	1
RECOMMENDATIONS	2
INTRODUCTION	3
LOCATION AND ACCESS	4
CLAIMS	4
SOIL COLLECTION AND ANALYSIS	5
METHOD OF DATA EVALUATION	6
METHOD OF DATA PRESENTATION	7
DESCRIPTION OF RESULTS	8
DISCUSSION OF RESULTS	17
REFERENCES	20

LIST OF FIGURES

	<u>FOLLOWING PAGE</u>	
FIGURE 1	Location Map	4
FIGURE 2	Claim Map	5
FIGURE 3	1985 Soil Geochemical Survey Map	5
FIGURE 4	Sample Location Map	In Pocket
FIGURE 4A	Soil Geochemical Survey - Gold	9
FIGURE 4B	Soil Geochemical Survey - Silver	10
FIGURE 4C	Soil Geochemical Survey - Arsenic	10
FIGURE 4D	Soil Geochemical Survey - Copper	11
FIGURE 4E	Soil Geochemical Survey - Lead	12
FIGURE 4F	Soil Geochemical Survey - Zinc	13
FIGURE 4G	Soil Geochemical Survey - Manganese	14
FIGURE 4H	Soil Geochemical Survey - Iron	15
FIGURE 4I	Soil Geochemical Survey - Antimony	15
FIGURE 4J	Soil Geochemical Survey - Molybdenum	16
FIGURE 4K	Soil Geochemical Survey - Barium	16
FIGURE 4L	Soil Geochemical Survey - Cobalt	16
FIGURE 4M	Soil Geochemical Survey - Nickel	16
FIGURE 4N	Soil Geochemical Survey - Cadmium	16
FIGURE 4O	Soil Geochemical Survey - Potassium	16
FIGURE 4P	Soil Geochemical Survey - Aluminum	16
FIGURE 4Q	Soil Geochemical Survey - Calcium	16
FIGURE 4R	Soil Geochemical Survey - Strontium	16
FIGURE 4S	Soil Geochemical Survey - Magnesium	16
FIGURE 4T	Soil Geochemical Survey - Titanium	16
FIGURE 4U	Soil Geochemical Survey - Phosphorus	16
FIGURE 4V	Soil Geochemical Survey - Lanthanum	16
FIGURE 4W	Soil Geochemical Survey - Chromium	16
FIGURE 4X	Soil Geochemical Survey - Bismuth	16
FIGURE 4Y	Soil Geochemical Survey - Vanadium	16
FIGURE 5	Multielement Zones	18
FIGURE 6A	Au-Ag-As Compilation Map	19
FIGURE 6B	Cu-Pb-Zn Compilation Map	19

LIST OF TABLES

	<u>FOLLOWING PAGE</u>
Table 1: Element Associations in Anomalou Zones and Anomaly Scores Precious, Base and Pathfinder Elements	16

LIST OF APPENDICES

	<u>PAGE NUMBER</u>
APPENDIX 1 ANALYTICAL PROCEDURES	21
APPENDIX 2 LIST OF QUALIFICATIONS	24

SUMMARY AND CONCLUSIONS

Soil sampling on the Buck Creek property was conducted from May 3rd to May 10th, and June 4th to June 7th, 1985. A total of 794 samples were collected using either a 25 metre x 50 metre or 50 metre x 100 metre sample density depending on proximity to known anomalous zones. Samples were analysed at Acme Analytical in Vancouver for the ICP suite of elements plus gold.

Four soil zones have been defined as being consistently enriched in precious, base and pathfinder elements. These are: the Main zone, the East zone, the Creek zone and a broad area south of the Main and East zones.

The Main zone anomalies centred on L300N, 300E are attributable to underlying disseminated and veinlet hosting sulphide mineralization in QFP breccia. Position and trend of the soil anomalies match trenched bedrock occurrences. Moderately anomalous to maximal concentrations at the Main zone are: gold 100-4900 ppb, silver 2-24 ppm, arsenic 90-5500 ppm, copper 65-166 ppm, lead 80-400 ppm and zinc 600-14100 ppm.

East zone soil anomalies are found 150 metres east of the Main zone and overly vug hosted and disseminated sulphides in

brecciated: dacite, QFP and QFP dyke. Moderately anomalous to maximal soil concentrations at the East zone are: gold 100-14900 ppb, silver 2-46 ppm, arsenic 900-1070 ppm, copper 65-1800 ppm, lead 80-4900 ppm and zinc 600-8500 ppm.

Soil anomalies associated with the Creek zone represent downstream cominution of sulphide particles derived from sporadically mineralized QFP breccia in the overlying till and underlying bedrock. Soil concentration ranges for precious, base and pathfinder metals are: gold 100-395 ppb, silver 2-5 ppm, arsenic 60-900 ppm, copper 90-195 ppm, lead 100-300 ppm and zinc 600-1600 ppm.

The broad zone of sporadic anomalies found south of the Main and East zones is attributed to glacial disperison of mineralized material from these zones.

RECOMMENDATIONS

Further work over the four multielement zones is unwarranted. Fill-in soil sampling at a 25 metre x 50 metre density is recommended for areas 2 and 3 (Figure 40) identified by Trinder and Rebagliati (1985) as potential areas for ore grade mineralization. Soil sampling is not recommended for area 1 (Figure 40) due to excessive (15-45 metre) overburden depths indicated in drill holes 85-39 and 85-40.

INTRODUCTION

Exploration of the Buck Creek property can be dated back to 1914 when placer gold was discovered in Bob Creek.

Alteration of bedrock surrounding Bob Creek suggested a local source. Selco optioned the property from Cominco in 1983 to drill test the potential for a large tonnage low grade precious metals deposit. Geochemical enhanced values of base and precious metals were encountered combined with broad favourable alteration. Ore grade intersections were narrow and erratic.

An orientation soil geochemical program was initiated in 1984 to further define targets. Results of the survey highlighted several well defined northeast and northwest trending linears correlating to anomalies defined by Cominco in previous years. Anomaly contrast proved to be highly sensitive to overburden type (Hoffman, 1984). Anomaly trends were best defined in regions where samples were collected at 25 metre intervals on lines spaced 50 metres apart and contour intervals were calculated separately for residuum versus glacial drift.

Results promoted the 1985 continuation of fillin sampling in the Bob Creek area and the extension of the 1984 north survey grid southwards adjoining to the 1984 South grid.

LOCATION AND ACCESS

The Buck Creek property is located 11 km due south of Houston, B.C., near the junction of Bob and Buck Creeks at latitude 54°18' North and longitude 126°38' West on NTS map 93L/7E (Figure 1).

Access to the property is via the all-weather Buck Flats road south from Houston a distance of 14 km and thence by range roads along Bob Creek.

Elevations vary from 830 metres to 1080 metres above sea level. Vegetation is mixed and consists of open forests spruce, pine and poplar as well as grassy open hilltops.

CLAIMS

<u>CLAIM NAME</u>	<u># OF UNITS</u>	<u>RECORD #</u>	<u>ANNIVERSARY DATE</u>
GODFREY	5	317	June 7, 1993
BUCK	20	1334	June 21, 1993
LORNE	8	1333	June 21, 1993
HC	4	1335	June 21, 1993
CLOUD	3	812	October 11, 1991
BETH 1	9	3622	March 2, 1993
BETH 2	2	3623	March 2, 1993
BETH 3	10	3624	March 2, 1993
BETH 4	8	3625	March 2, 1993
BETH 5	1	3626	March 2, 1993
BETH 6	18	5526	August 12, 1988
BETH 7	18	5527	August 12, 1988
BETH 9	20	6833	January 25, 1986
BETH 10	20	6834	January 25, 1986

<u>CLAIM NAME</u>	<u># OF UNITS</u>	<u>RECORD #</u>	<u>ANNIVERSARY DATE</u>
BETH 11	20	6835	January 25, 1986
BETH 12	20	6836	January 25, 1986
BETH 13	12	6837	January 25, 1986
BETH 14	12	6838	January 25, 1986

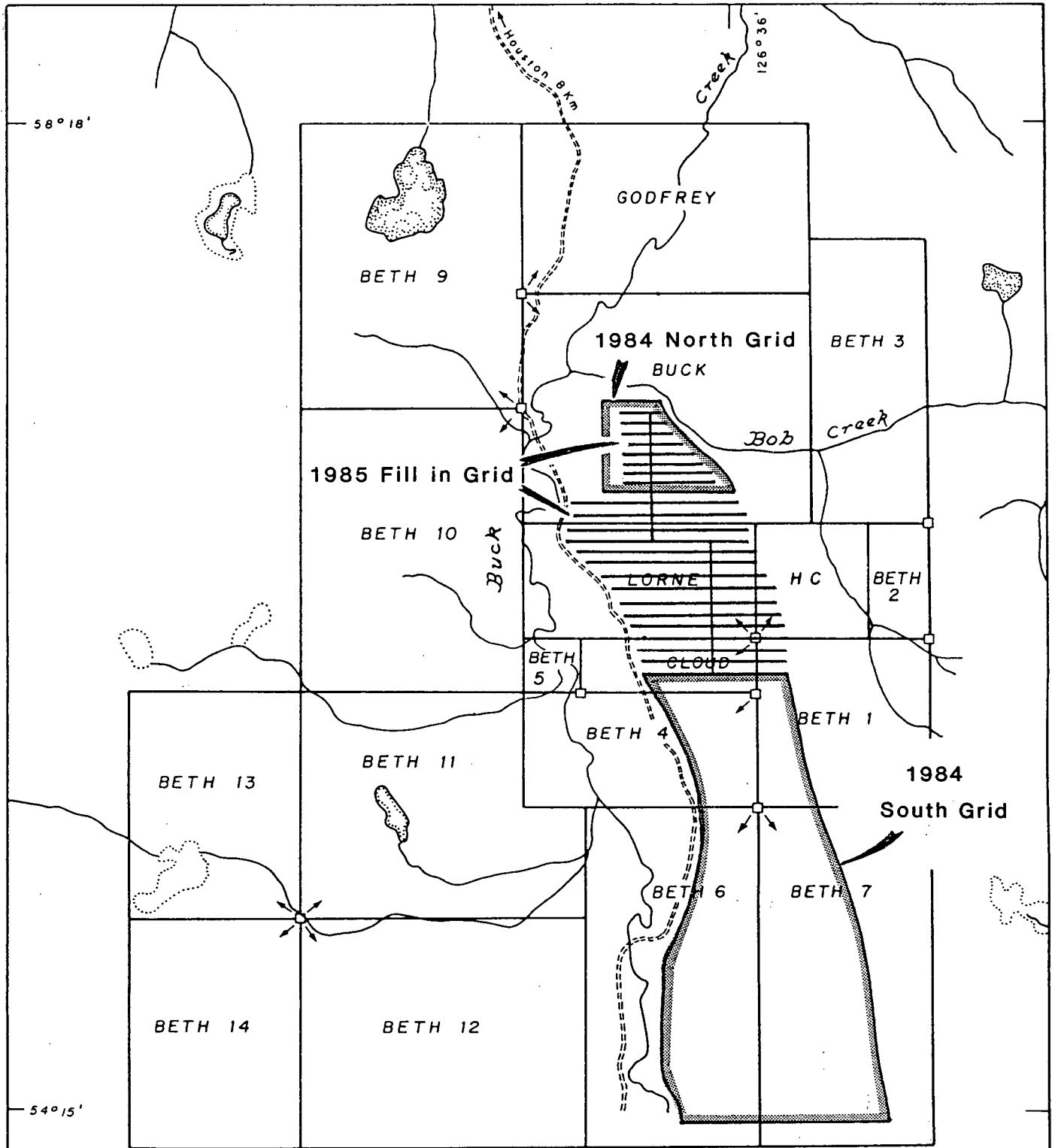
TOTAL 210 UNITS

All claims are located on mapsheet 93L/7E (Figure 2).

SOIL COLLECTION AND ANALYSIS

Fill-in soil samples were taken at 25 metre to 50 metre intervals along lines 50 metres to 100 metres apart over the 1984 North soil and extending from the north grid to the south grid (Figure 3). The "B" horizon was sampled at a depth of 20 cm to 60 cm, organic rich material was avoided. Samples weighing .5 to 1 kg were placed in kraft paper envelopes (10 cm x 23 cm) and allowed to air dry at ambient temperatures. Station locations were denoted using orange flagging and a numbered aluminum tag, sample numbers were inscribed on the aluminum tags to ensure ease in followup.

Samples were submitted to Acme Analytical Laboratories in Vancouver, B.C. for ICP (inductively coupled plasma) analysis for about 30 elements. Gold was determined using an aqua regia sample digestion coupled with MIBK extraction and determination using AA giving a 1 ppb detection limit. Analytical procedures are reported in Appendix 1, analytical data indexed to field technical information and coordinates is found in Appendix 2.



SELCO DIVISION -
BP RESOURCES CANADA LIMITED

1985 SOIL
GEOCHEMICAL SURVEY
BUCK CREEK PROJECT

SCALE	1: 50, 000	DRAWN BY:		FIG. 3
DATE	JAN 1985	DRAFTED BY:	E. B. W.	
N.T.S.	93 L / 7 E	PROJ.	10100	

METHOD OF DATA EVALUATION

Appendix 2 lists the field technical data and analytical results in three parts, appropriately numbered in the upper right hand corner of each page. Histograms were drawn to summarize the distribution of metal values in till samples and residual materials. Selection of arithmetic or logarithmic scales is determined by reference to the detection limit for an element and a number 25X that detection limit. If the maximum value is less than 25X the detection, the histogram is calculated by incrementing the detection limit value arithmetically up to 25X the detection limit. If the maximum value exceeds 25X the limit, both arithmetic and logarithmic scales have been plotted, scale increments being a constant factor of the detection limit or the standard deviation interval.

In view of the abnormally great influence exceptionally high values have on the construction of a histogram, data sets have been truncated where this is prudent (i.e., where the maximum value is >25X the detection limit and truncation does not leave the remaining maximum values <25X the detection limit). Truncated data have been replotted in arithmetic or logarithmic format; all values greater than the mean plus 1.9 standard deviation interval truncation limit being plotted in the greatest concentration class interval.

METHOD OF DATA PRESENTATION

Strong correlation between type of soil parent material and trace element and gold level suggested conventional data analysis assuming a single population would not be possible. The data are strongly bimodal as a consequence of overburden origin. To ignore this factor would lead to defining residual and till character of the overburden is typically obvious on site and a geochemical survey should not be used in this fashion.

To correct for overburden origin, histograms were drawn individually for tills and residual materials. Size codes for symbols are selected to highlight anomalous tails of each normally distributed population. Tills are represented by dots, residual materials by hexagons.

Histograms are interpreted subjectively to arrive at size coding intervals. Largest dots or hexagons represent the most anomalous conditions; numbers printed next to the largest dots represent the maximum values of the survey. The second largest dots represent weakly anomalous values. Dot selection otherwise attempts to divide the data into recognizable populations. Each population is subdivided by dot size selection to highlight the uppermost 5 to 10

percentile of that population. Anomalous conditions do not necessarily have to be indicated by the very largest symbols but can also be defined relative to the majority of surrounding lower values. The largest symbols are considered anomalous under all conditions, save their random distribution throughout the survey area. The method of histogram interpretation is reported in Appendix 3.

Separate maps could have been drawn for each overburden type and anomalous conditions compiled. This would be a tedious process when it is recognized that selection of size coding format for both groups of data attempted to highlight anomalous conditions within each group. Maps presented as Figure 4A through 4Y effectively represent such compilations, the level of blackness proportional to the anomalous character of the sample value regardless of overburden type. These maps show "isoanomalous conditions" and can be used directly to describe and interpret geochemical distributions within the orientation grid.

DESCRIPTION OF RESULTS

Location of soil samples collected during the 1984 and 1985 geochemical surveys is presented in Figure 4.

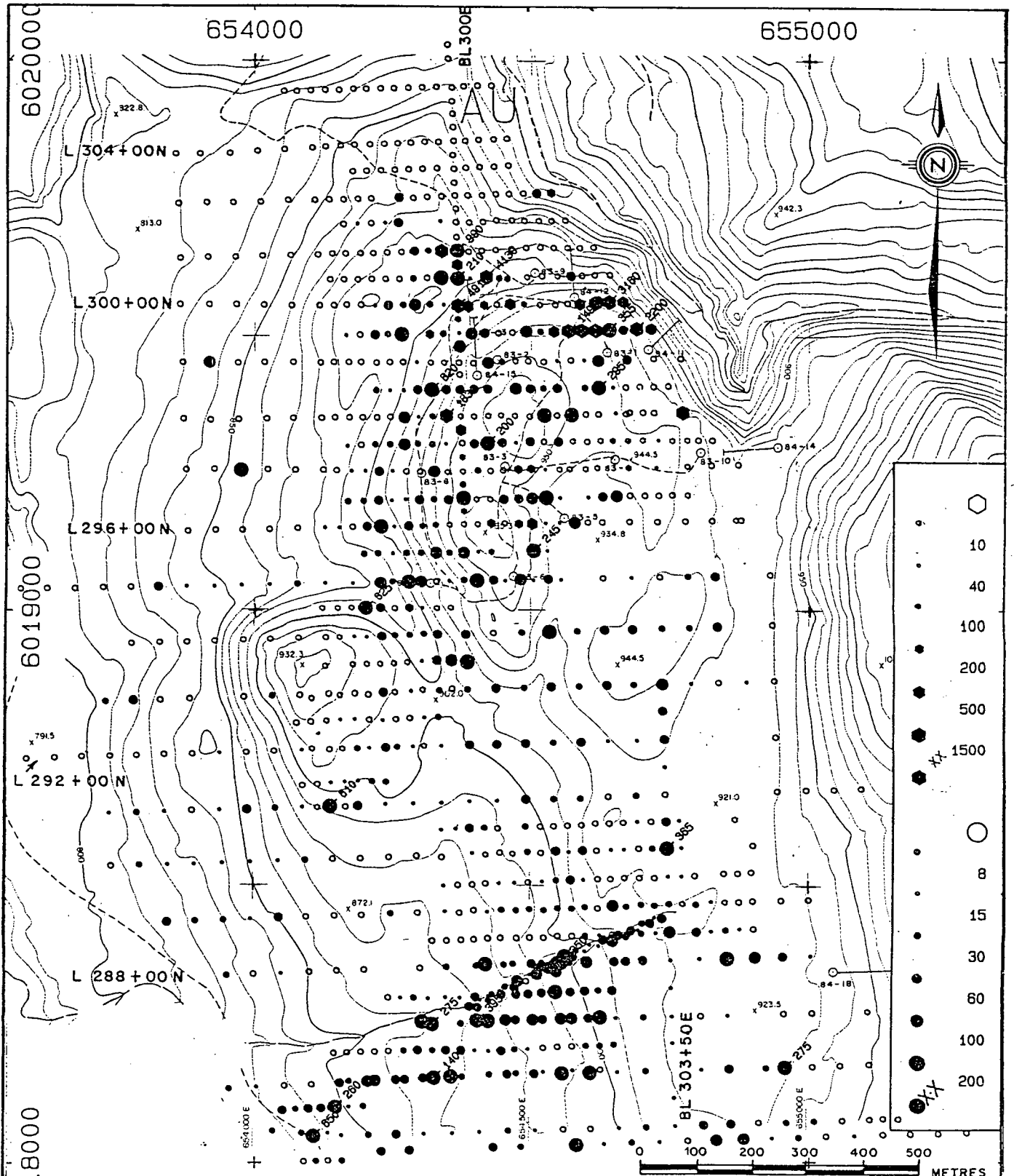
1. Gold (Figure 4A)

Background concentration of gold in soils averages less than 10 ppb over the Buck Creek grid. Three areas of substantial gold enrichment stand out; the Main zone, previously trenched and found on L300+00N at 300+00E, the East zone, centred on L299+50N at 302+50E and the Creek zone on L288+00N at 301+00E.

Anomalous gold at the Main zone defines an area 100 metres x 75 metres. A northeast-southwest trend is described by maximum gold values of 4900 ppb and 4100 ppb.

The East zone lies 150 metres east of the Main zone. Thirteen samples outline a 50 metre x 175 metre east-west trending region of enhanced gold. Samples generally exceed 1000 ppb gold, a maximum value of 15,000 ppb is a product of the nugget effect, reproducible maximum values are in the 2200 ppb to 3200 ppb range.

The Creek zone has a broad, comparatively moderate anomaly that trends subparallel to the creek. Anomalous values range from 60 ppb to 395 ppb.




 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
BUCK CREEK BUCK CREEK - CENTRAL B.C. 1984 - 1985 SOIL GEOCHEMICAL SURVEY GOLD (ppb)		
SCALE	1 : 10,000	DRAWN BY:
DATE	JUNE 1985	DRAFTED BY: E. B. W.
N.T.S. 93L / 7		PROJ. 10100
		REPORT

FIG. 4A

Regions of elevated background to threshold gold concentrations containing scattered anomalies are observed. The regions are headed by the principle gold anomalies and have south-southwest trends.

2. Silver (Figure 4B)

Background silver in soils averages 0.2 to 0.4 ppm. Principle silver anomalies are at the Main zone and the East zone.

Enriched silver at the Main zone describes two parallel subzones having southwest-northeast trends.

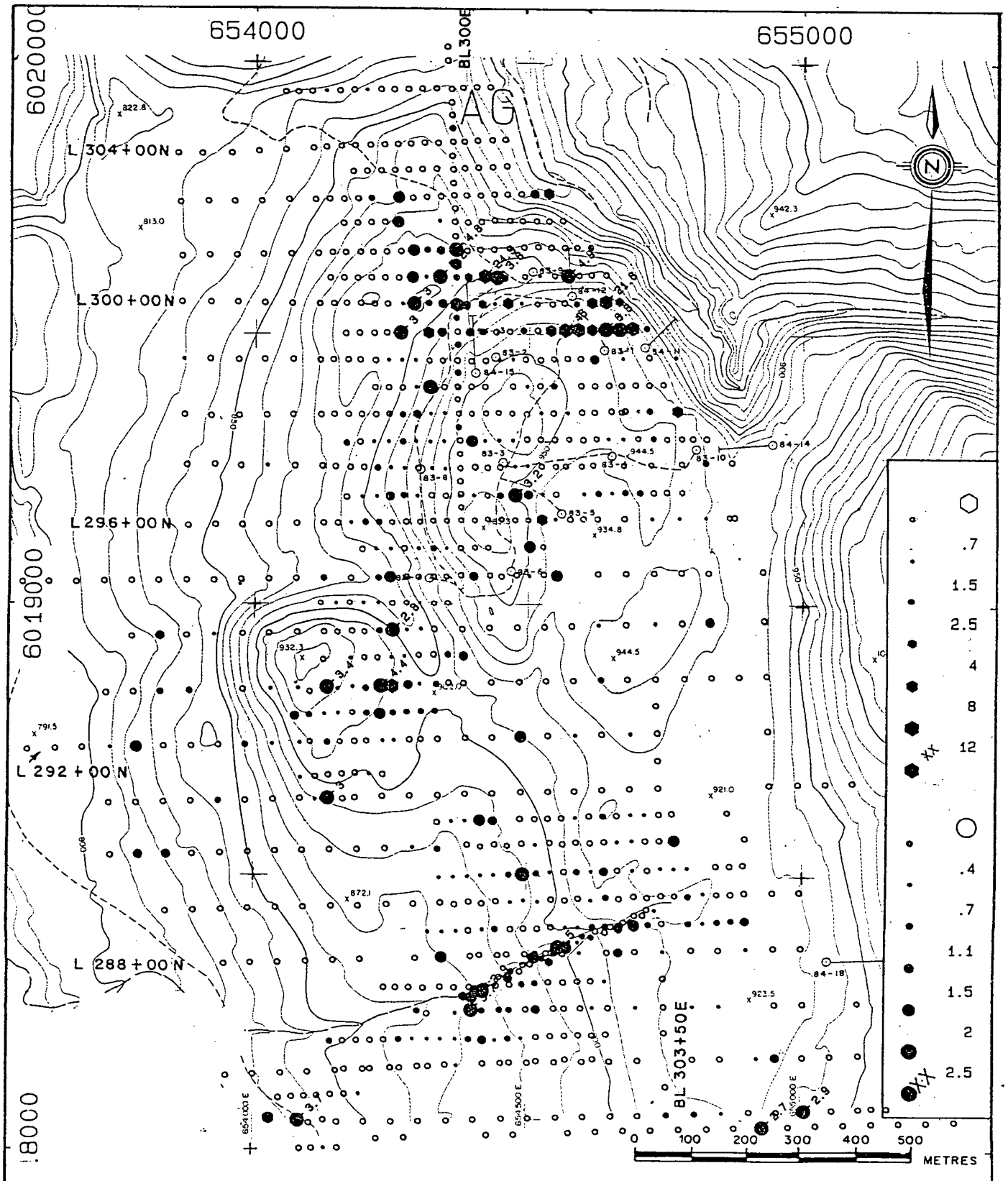
Concentrations range from 3 ppm to 25 ppm.


The silver anomaly overlying the East zone is of the same trend and slightly smaller than the corresponding gold anomaly. Maximum enhancement is 46 ppm.

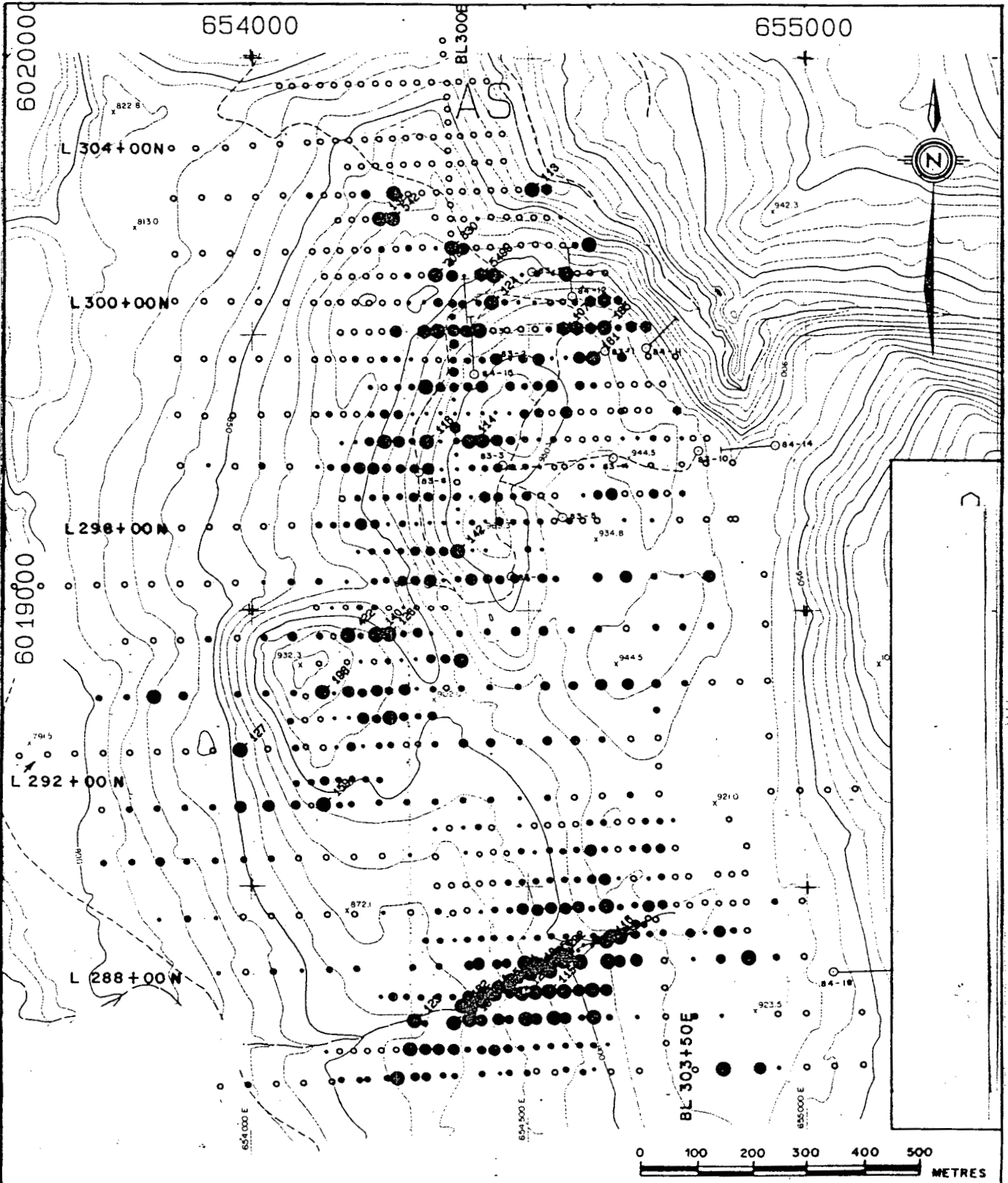
Minor anomalies containing 2.5 ppm to 5 ppm silver are observed south-southwest of the Main and East zones and along the Creek zone.


3. Arsenic (Figure 4C)

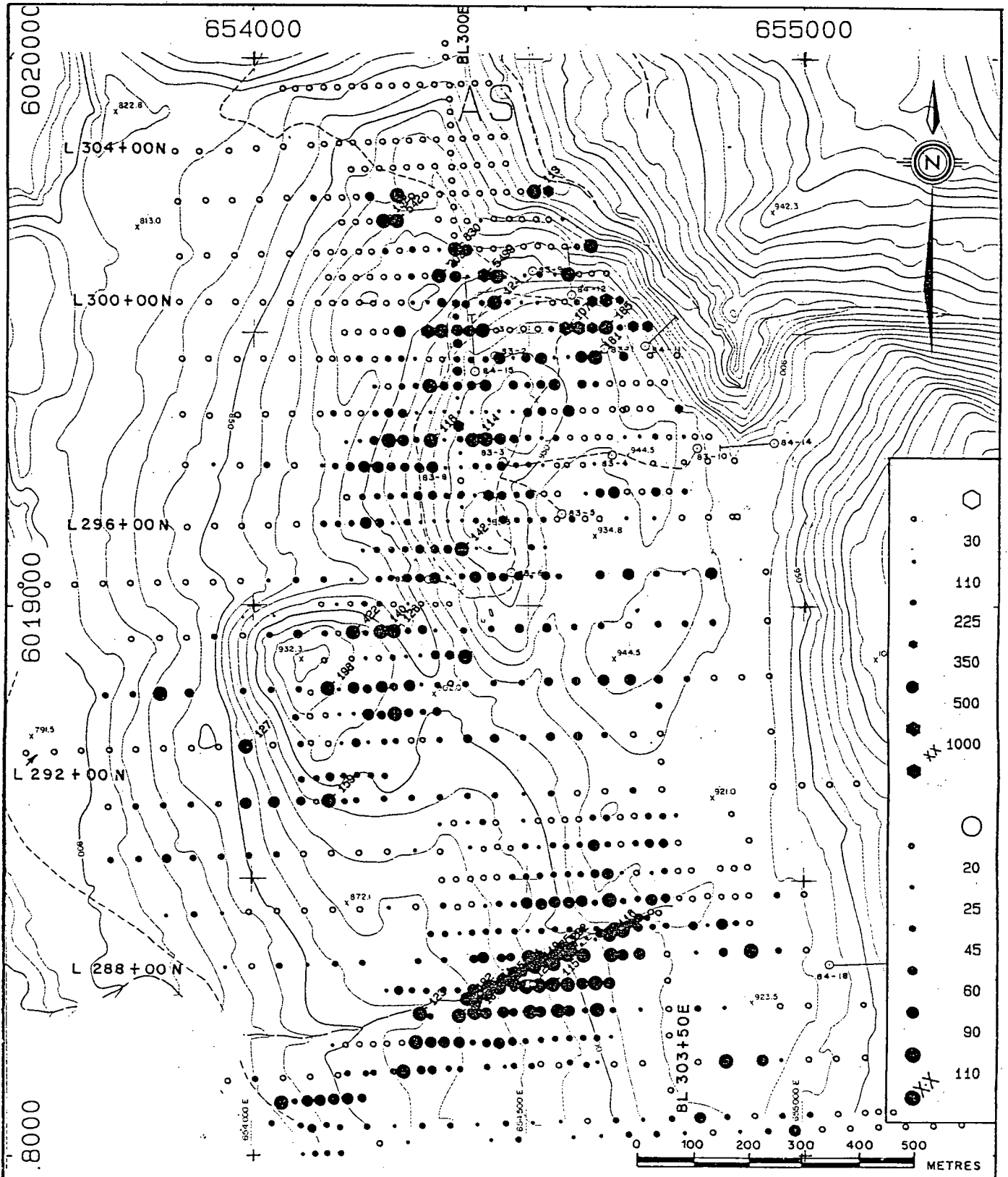
Arsenic background concentration is less than 30 ppm, principle anomalies are associated with the Main, East and Creek zones.




 SELCO DIVISION - BP RESOURCES CANADA LIMITED	
BUCK CREEK BUCK CREEK - CENTRAL B C. 1984 - 1985 SOIL GEOCHEMICAL SURVEY SILVER (ppm)	
SCALE 1: 10,000	DRAWN BY:
DATE JUNE 1985	DRAFTED BY: E. B. W.
N.T.S. 93L/7	PROJ. 10100
REPORT	FIG. 4B



		SELCO DIVISION - BP RESOURCES CANADA LIMITED	
BUCK CREEK BUCK CREEK - CENTRAL B.C. 1984 - 1985 SOIL GEOCHEMICAL SURVEY ARSENIC (ppm)			
SCALE	1:10,000	DRAWN BY:	FIG 4C
DATE	JUNE 1985	DRAFTED BY: E. B. W.	
N.T.S.	93L/7	PROJ. 10100	REPORT



 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
BUCK CREEK BUCK CREEK - CENTRAL B.C. 1984 - 1985 SOIL GEOCHEMICAL SURVEY ARSENIC (ppm)		
SCALE	1 : 10,000	DRAWN BY:
DATE	JUNE 1985	DRAFTED BY: E. B. W.
M.T.S. 93L / 7		PROJ. 10100
REPORT		FIG. 4C

Anomaly size and trends at the Main and East zones are similar to those present for gold and silver. Maximum concentrations are 5500 ppm and 1100 ppm for the Main and East zone respectively.

A broad 500 metre x 100 metre anomaly of moderate concentration is associated with the Creek zone. Anomalous samples have concentrations of 60 to 900 ppm.

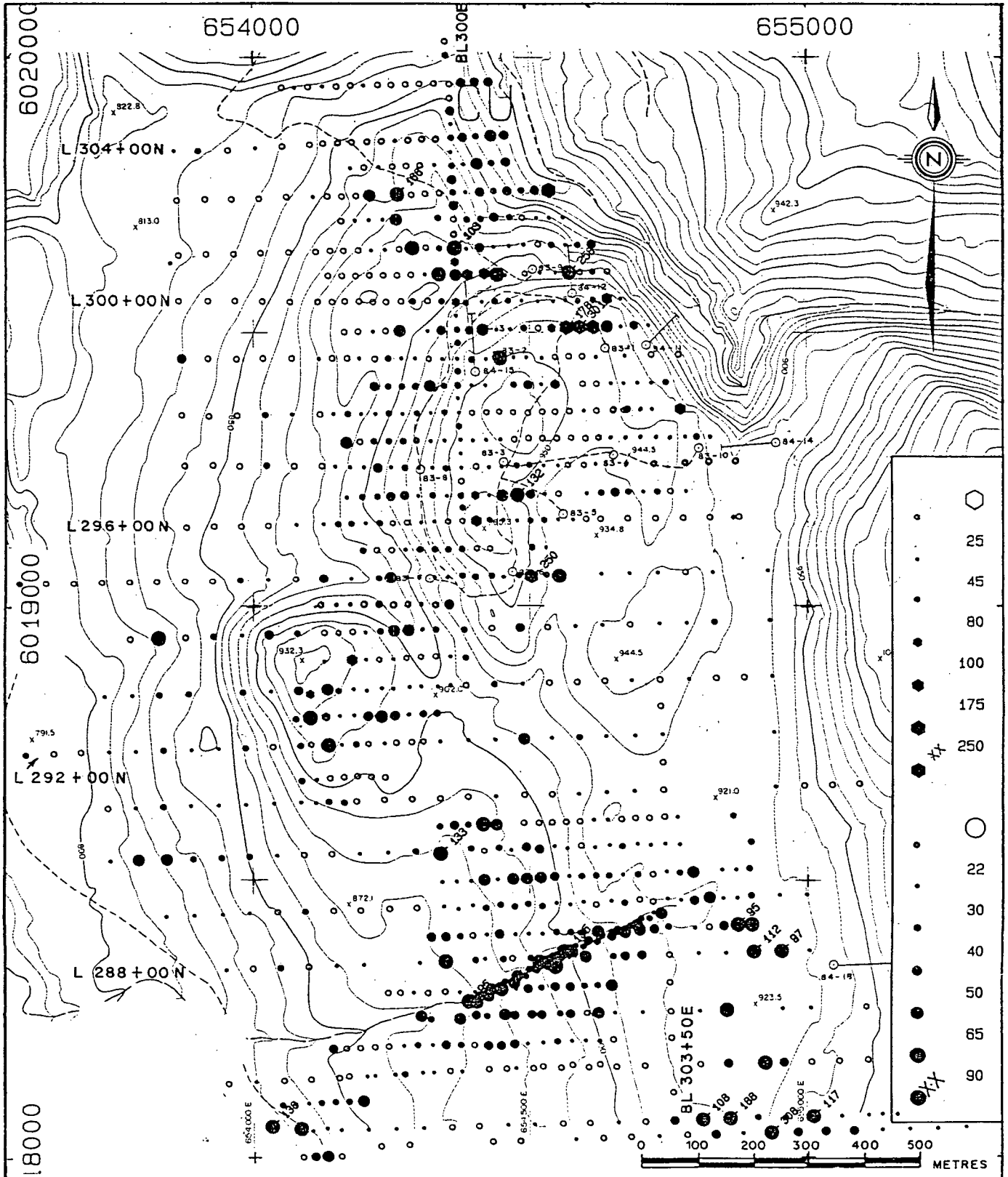
Scattered minor anomalies having concentrations of 100 ppm to 540 ppm are generally found south-southwest of the principle anomalous zones. A few minor anomalies lie north of the Main and East zones.


4. Copper (Figure 4D)

Background copper concentration in soil average 25 ppm over the survey area. Small moderate concentration anomalies overlie the Main, East and Creek zones.

Maximum concentration at the Main zone is 166 ppm. Anomaly trend is east-west.

Five samples contain anomalous copper concentrations at the East zone. Peak enrichment is 1800 ppm.



 SELCO DIVISION - BP RESOURCES CANADA LIMITED			
BUCK CREEK BUCK CREEK - CENTRAL B.C. 1984 - 1985 SOIL GEOCHEMICAL SURVEY COPPER (ppm)			
SCALE	1 : 10,000	DRAWN BY:	
DATE	JUNE 1985	DRAFTED BY:	E. B. W.
N.T.S. 93L/7		PROJ.	10100
		REPORT	FIG. 4D

Anomalous copper samples found at the Creek zone are narrowly restricted to the creek banks. Copper content in soils ranges from 90 to 195 ppm.

Enhanced background and threshold levels of copper extend from the northeast grid corner to the gabbro plug in the west-centre of the grid and in the general vicinity of the Creek zone.

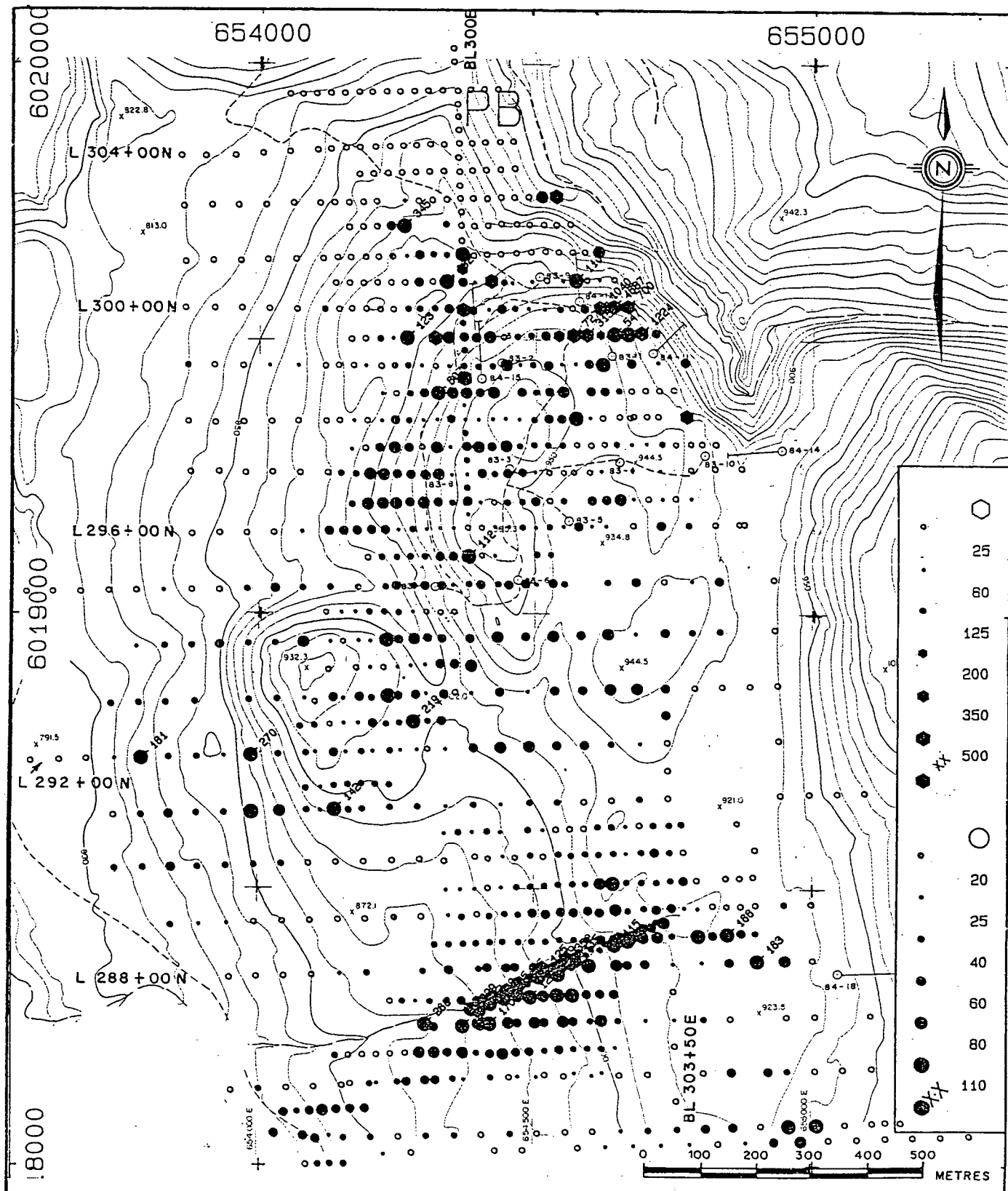
5. Lead (Figure 4E)


Background lead in soils averages 20 ppm, high contrast anomalies are found at the Main, East and Creek zones.

Maximum lead at the Main zone is 350 to 400 ppm. Two northeast-southwest trending linears are defined similar to silver.

Lead concentrations at the East zone are substantially higher compared to the Main zone. Anomalous values range from 300 to 700 ppm with maximum values of 1000 to 4900 ppm.

A broad lead anomaly similar to that defined by arsenic overlies the Creek zone. Enhanced concentrations are from 100 to 300 ppm lead.



 SELCO DIVISION - BP RESOURCES CANADA LIMITED			
BUCK CREEK BUCK CREEK - CENTRAL B.C. 1984 - 1985 SOIL GEOCHEMICAL SURVEY LEAD (ppm)			
SCALE	1 : 10,000	DRAWN BY:	
DATE	JUNE 1985	DRAFTED BY:	E. B. W.
N.T.S.	93L/7	PPGJ.	10100
		REPORT	FIG. 4E

A noticeable increase in background is observed south of the Main and East zones.

6. Zinc (Figure 4F)

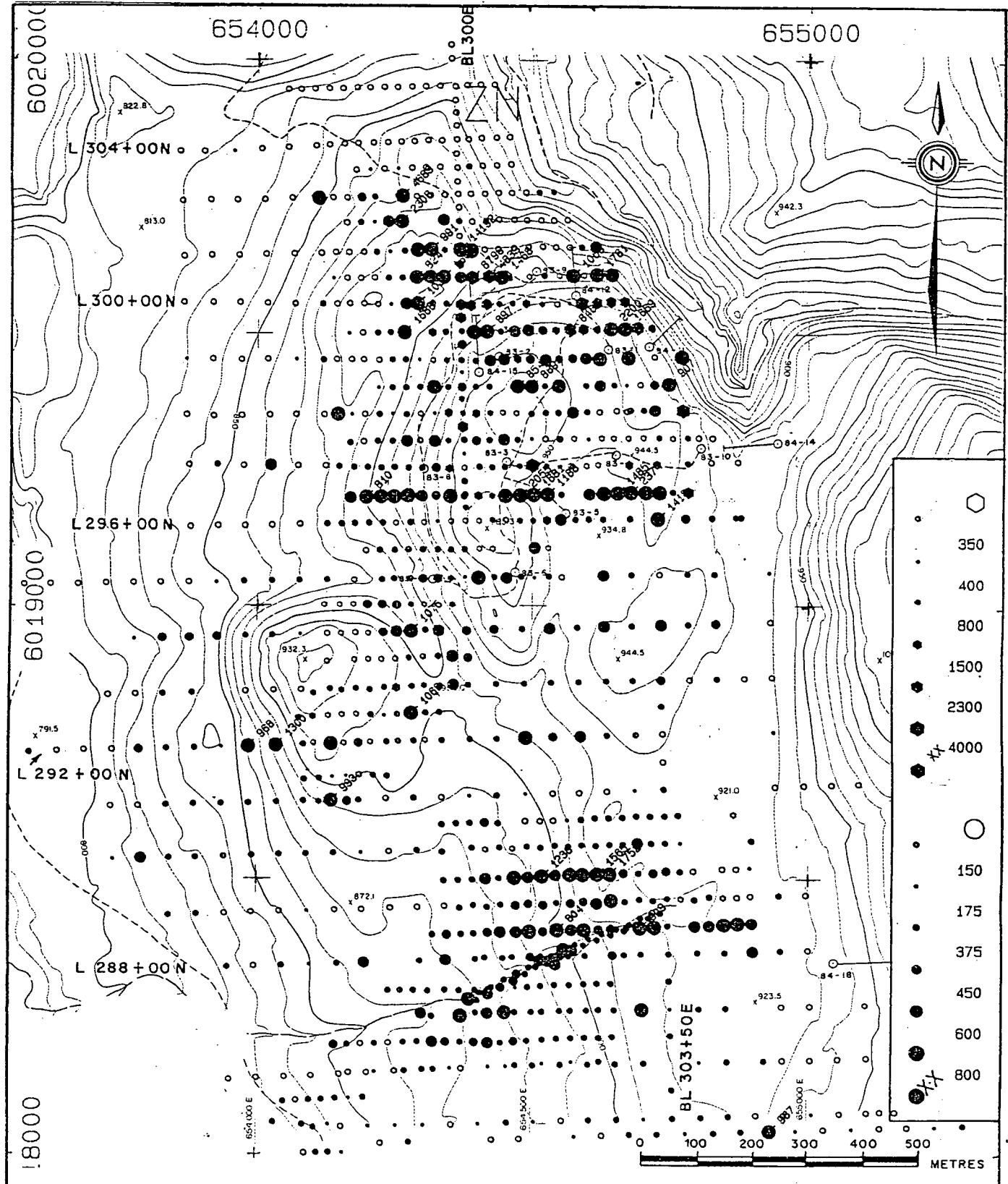
The average zinc background value is 150 ppm comparative to most surveys. Large high contrast anomalies are present at the Main, East and Creek zones.

A large 500 m x 75 m southeast-northwest trending anomaly overlies the Main zone. Twelve samples exceed 1000 ppm zinc, highly anomalous samples contain 2000 to 7000 ppm with a maximum value of 14,100 ppm.

Zinc defines a broad area of enrichment having a south trend at the East zone. Eleven samples exceed 1000 ppm, peak enrichment is 8500 ppm.

Anomalous zinc at the Creek zones lies predominantly north of the creek unlike previously observed elements. Maximum enhancement is 1600 ppm.

Several smaller anomalies are observed along L295+50N from 298+00E to 304+00E. Soil zinc contents are from 800 to 2400 ppm.




 SELCO DIVISION - BP RESOURCES CANADA LIMITED.		
BUCK CREEK BUCK CREEK-CENTRAL B.C. 1984-1985 SOIL GEOCHEMICAL SURVEY ZINC (ppm)		
SCALE	1: 10,000	DRAWN BY:
DATE	JUNE 1985	DRAFTED BY: E. B. W.
N.T.S. 93L/7		PROJ. 10100
		REPORT

FIG. 4F

7. Manganese (Fig. 4G)

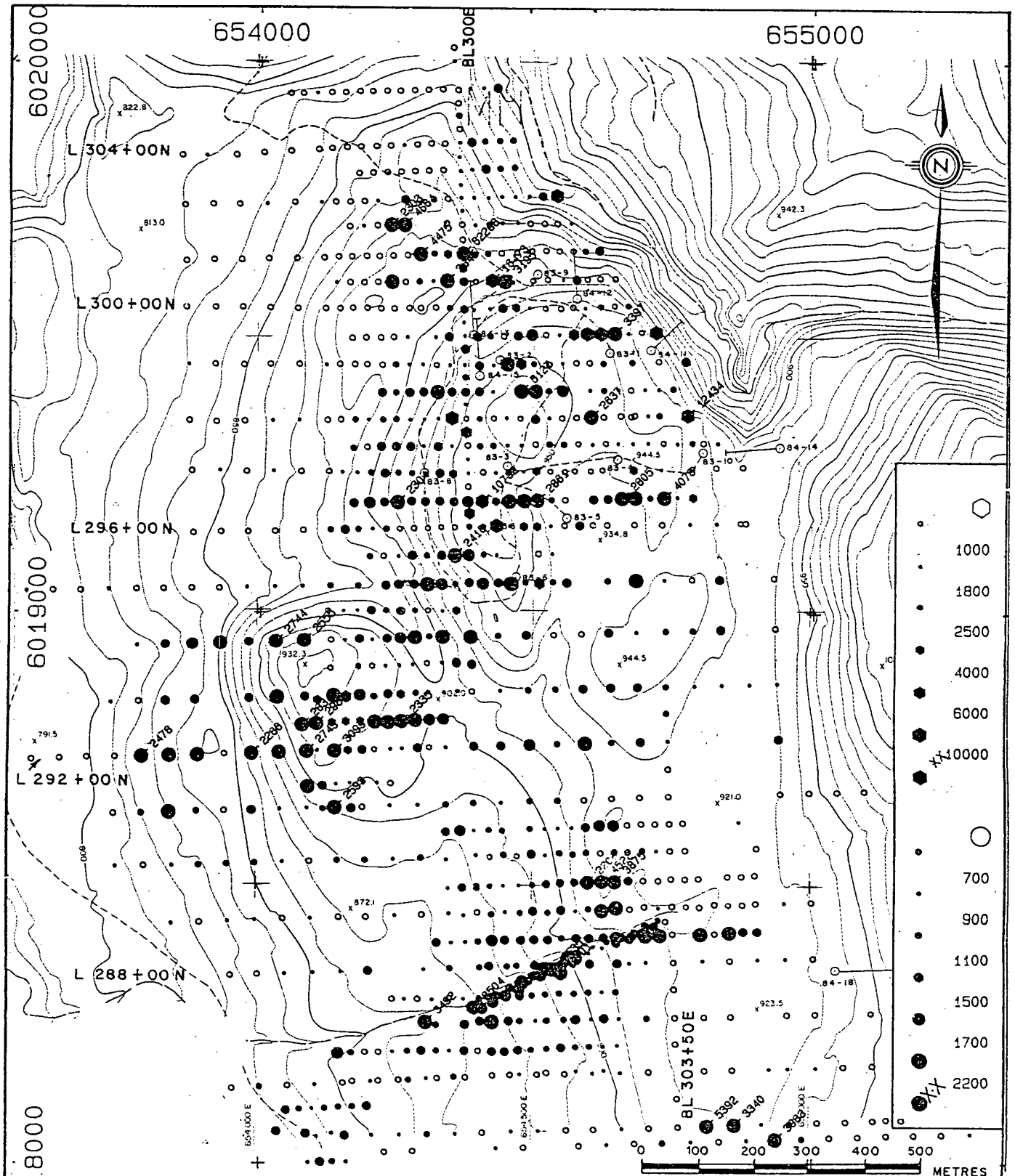
Average manganese background concentration in the survey area is less than 700 ppm. Manganese is abundant in mineralized trenches and is used as a visual indication of potential mineralization.

Manganese enrichment at the Main zone is of high contrast and limited dimensions. Elevated concentration range from 3200 ppm to 62200 ppm.

Manganese is similarly enhanced at the East zone. Five samples contain anomalous concentrations of manganese from 3400 ppm to 7800 ppm.

Two anomalies are observed at the Creek zones, a northwest trending upstream anomaly, and a downstream anomaly which follows the creek. Concentrations vary from 2200 ppm to 8500 ppm.

A broad band of anomalies extends, from the principle multielement Main and Creek zones, south-southwestwards to the gabbro stock. Concentrations commonly exceed 2000 ppm, while samples having in excess of 6000 ppm manganese are seen at several locations.



BP SELCO DIVISION -
BP RESOURCES CANADA LIMITED

BUCK CREEK
BUCK CREEK - CENTRAL B.C.
1984 - 1985
SOIL GEOCHEMICAL SURVEY
MANGANESE (ppm)

SCALE	1:10,000	DRAWN BY:	
DATE	JUNE 1985	DRAFTED BY:	E. B. W.
N.T.S.	93L/7	PROJ.	10100
		REPORT	

FIG. 4G

8. Iron (Figure 4H)

Average background concentration of iron is 3.8%.

Notable enrichments are observed in the vicinity of the Main zone and the East zone.

Distribution of iron at the Main and East zones is similar to manganese. Concentrations are generally higher at the East zone. Maximum contents of 9% to 21% reflect iron sulphide in the underlying bedrock.

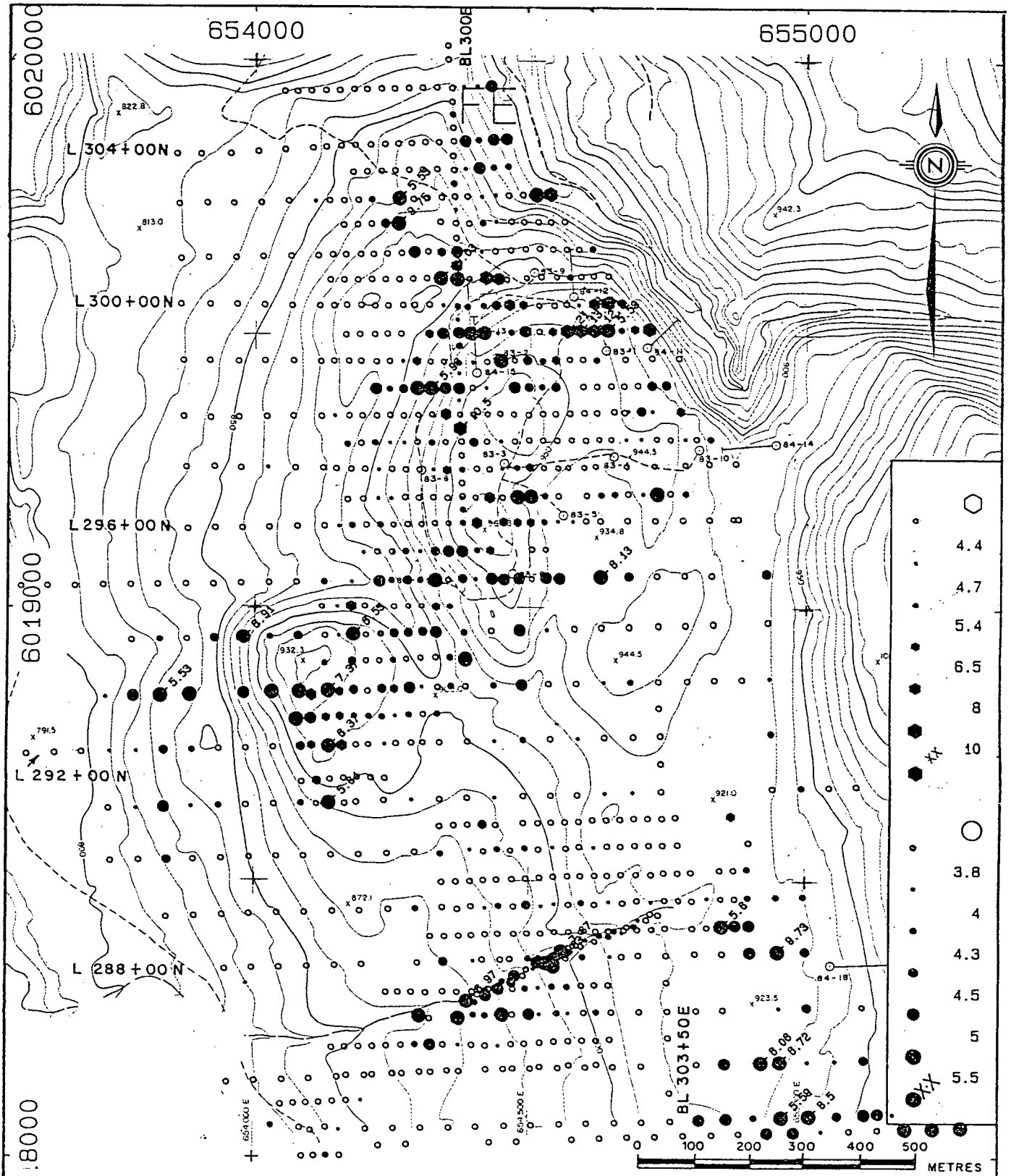
Iron forms two minor anomalies along the Creek zone that are restricted to the stream banks. Enhanced concentrations range from 5.5% to 7.7%.

Iron levels of 4.5% to 10.5% highlight the northeast-southwest trending band of moderate multielement enrichment that extends from the Main and East zones to the gabbro plug.

9. Antimony (Figure 4I)

Antimony in soil concentrations average less than the detection limit of 2 ppm. Notable enhancements are seen at the Main (58-131 ppm) and East zones (23-58 ppm).

Threshold levels (8-12 ppm) are observed over the Gabbro stock and along the Creek zone.




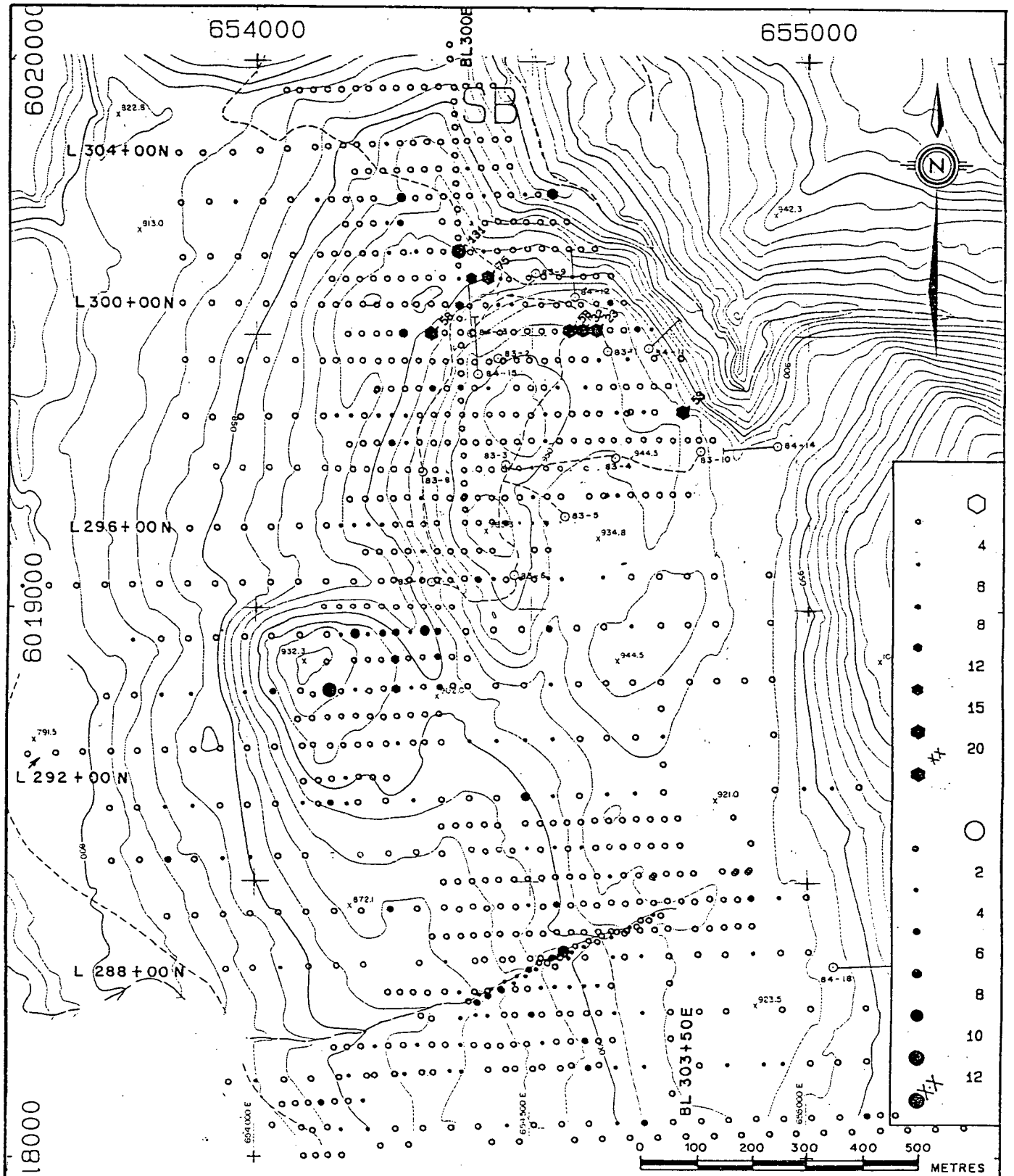
 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
BUCK CREEK BUCK CREEK - CENTRAL B.C. 1984 - 1985 SOIL GEOCHEMICAL SURVEY IRON (%)		
SCALE	1 : 10,000	DRAWN BY:
DATE	JUNE 1985	DRAFTED BY: E. B. W.
N.T.S. 93L/7	PROJ. 10100	REPORT

FIG. 4H



SELCO DIVISION -
BP RESOURCES CANADA LIMITED

BUCK CREEK
BUCK CREEK - CENTRAL B.C.
1984 - 1985
SOIL GEOCHEMICAL SURVEY
ANTIMONY (ppm)

SCALE	1 : 10,000	DRAWN BY:		FIG. 41
DATE	JUNE 1985	DRAFTED BY:	E. B. W.	
N.T.S.	93L / 7	PROJ.	10100	REPORT

An isolated single sample high of 53 ppm lies 200 metres southeast of the East zone.

10. Molybdenum (Figure 4J)

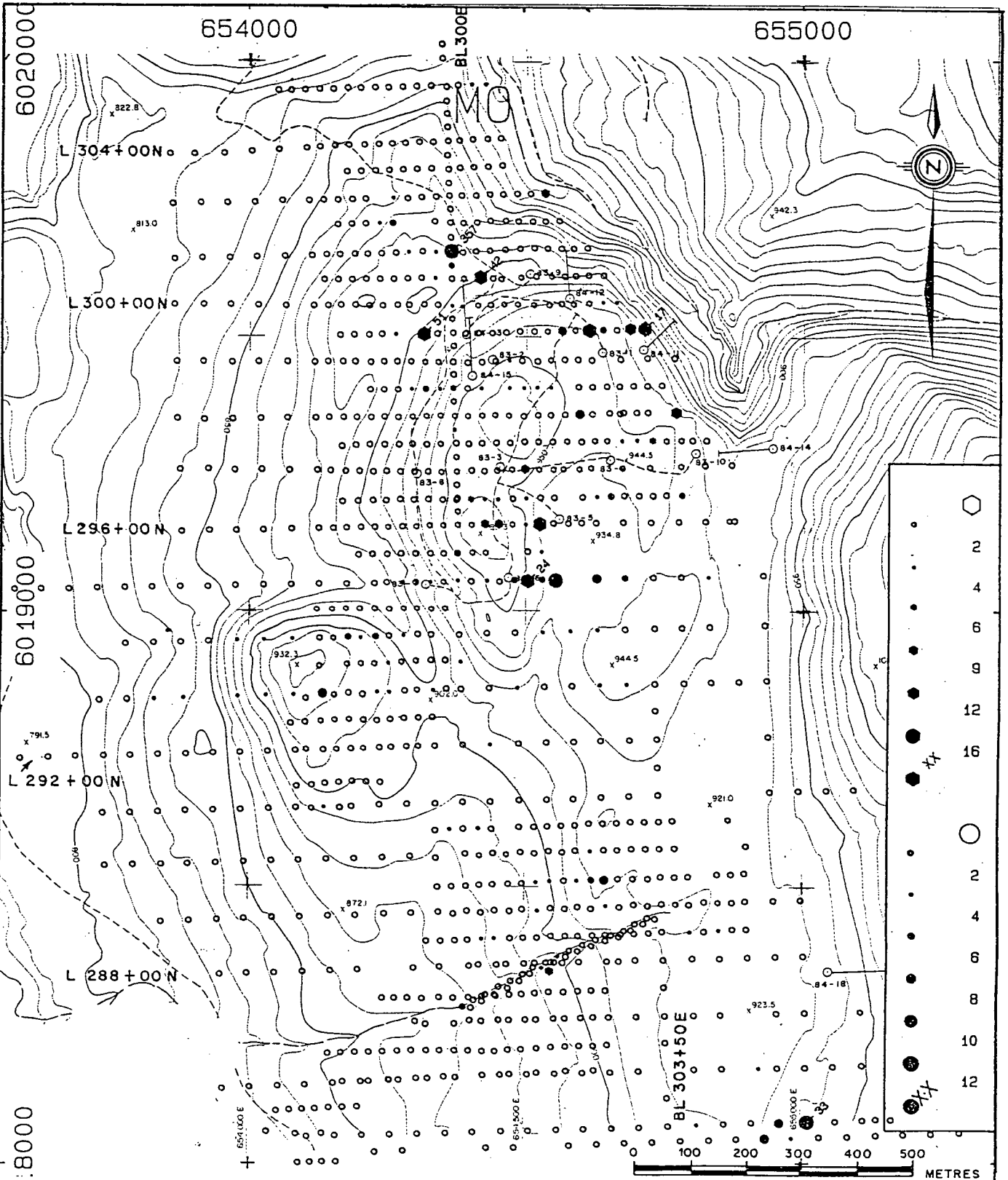
Molybdenum enhancement forms single sample anomalies that cluster at the Main and East zones. Concentrations are higher at the Main zone (42-357 ppm) compared to the East zone (9-17 ppm).

Several single sample anomalies (maximum 24 ppm) are found 400 metres south of the multielement zones.

11. Barium (Figure 4K)

Barium concentrations over the Main and East multielement zones are uniformly low. A single sample anomaly of 3300 ppm is observed 100 metres downslope of the Main zone. A large (1000 m x 500 m) barium anomaly extends from the gabbro plug northeastwards to the grid edge. Uniformly high concentrations range from 300 to 1460 ppm. Barium is moderately enhanced in the vicinity of the Creek zone, peak enrichment is 450 ppm.

The remaining ICP elements (Figs. 4L -4Y) do not significantly add to the resolution of the principle

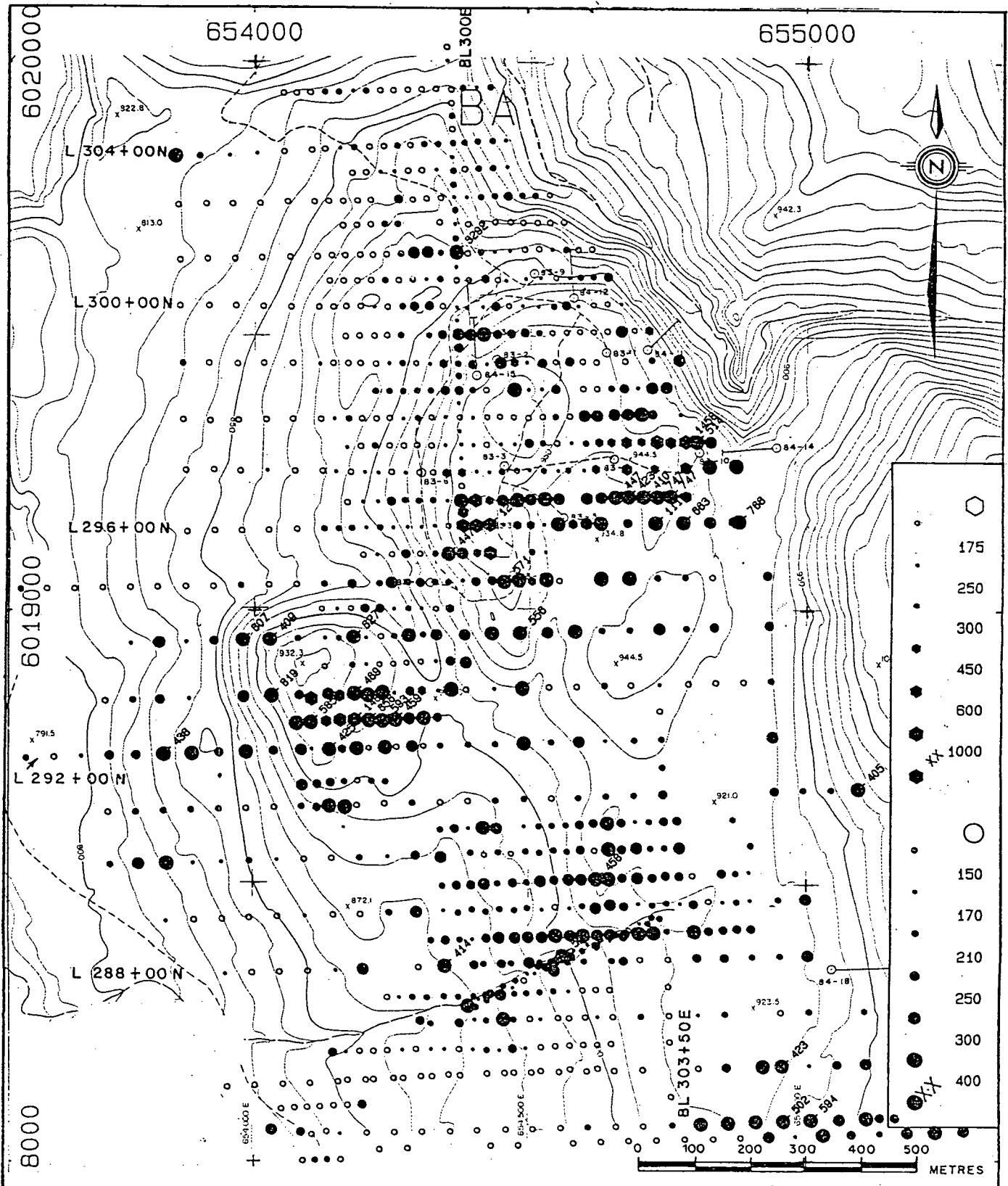



BP SELCO DIVISION -
BP RESOURCES CANADA LIMITED

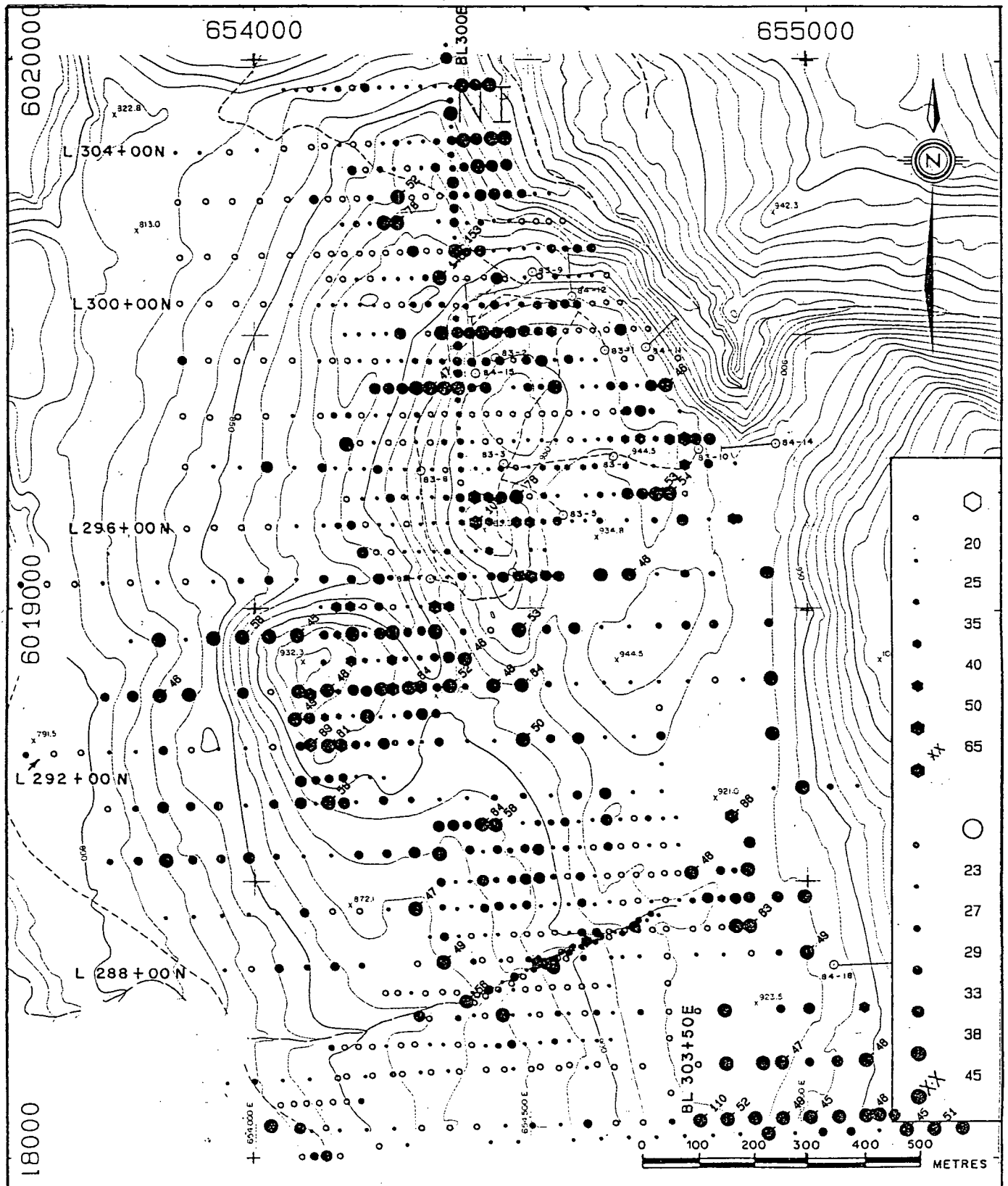
BUCK CREEK
BUCK CREEK - CENTRAL B.C.
1984 - 1985
SOIL GEOCHEMICAL SURVEY
MOLYBDENUM (ppm)

SCALE	1 : 10,000	DRAWN BY:	
DATE	JUNE 1985	DRAFTED BY:	E. B. W.
N.T.S.	93 L / 7	PROJ.	10100
		REPORT	

FIG. 4J



 SELCO DIVISION - BP RESOURCES CANADA LIMITED	
BUCK CREEK BUCK CREEK-CENTRAL B.C. 1984-1985 SOIL GEOCHEMICAL SURVEY BARIUM (ppm)	
SCALE 1:10,000	DRAWN BY:
DATE JUNE 1985	DRAFTED BY: E. B. W.
N.T.S. 93L/7	PROJ. 10100
REPORT	FIG. 4K

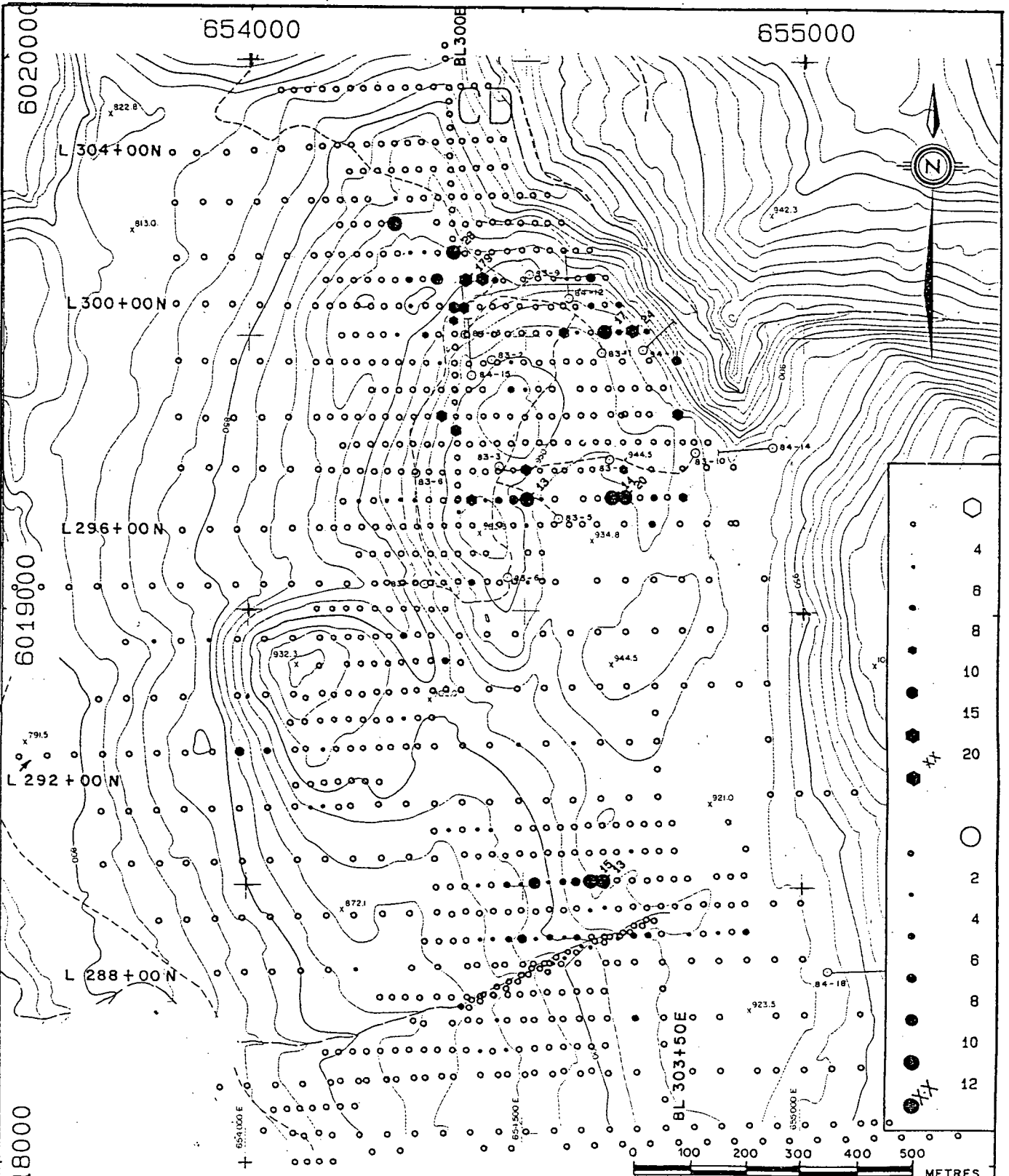



BP SELCO DIVISION -
BP RESOURCES CANADA LIMITED

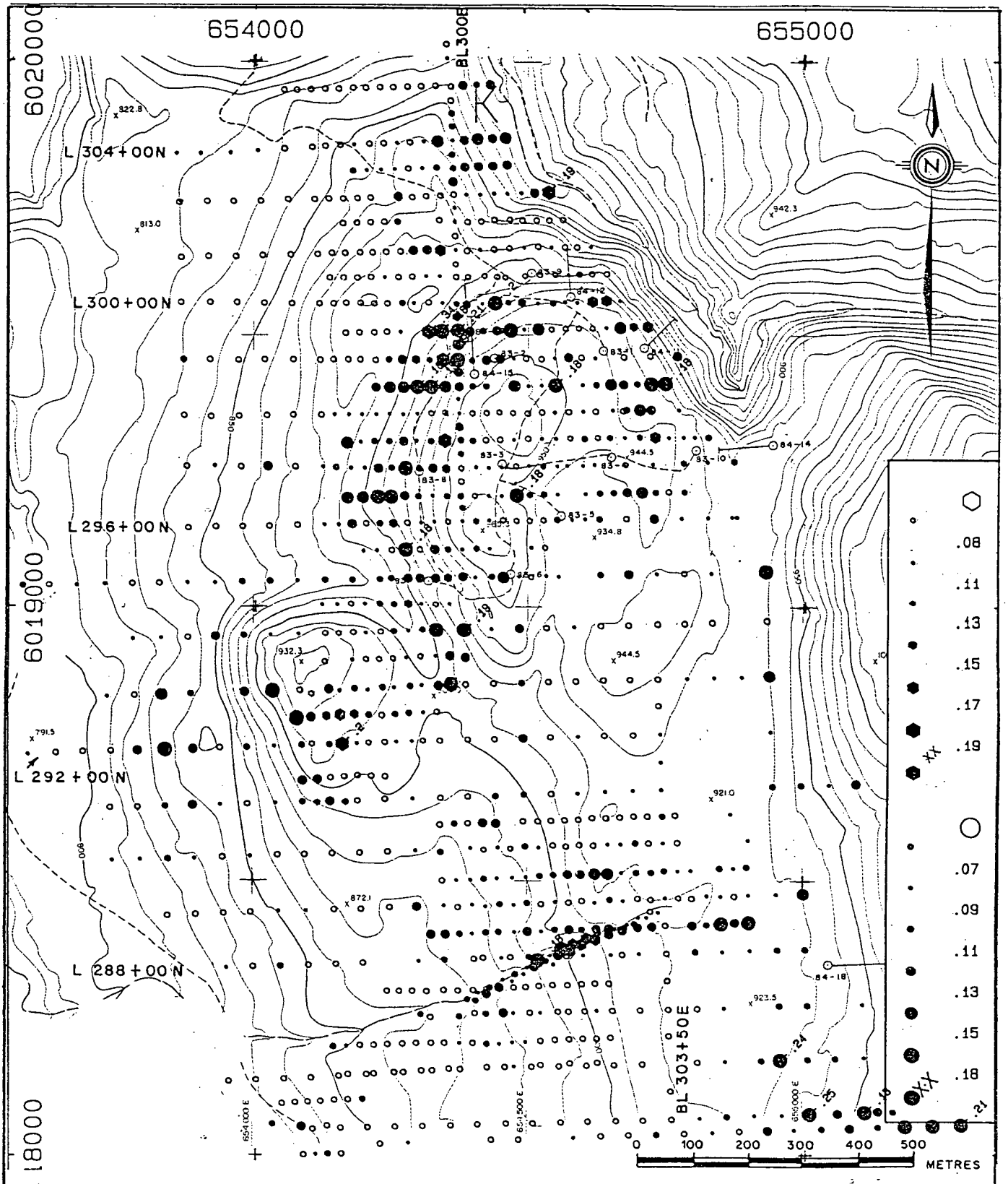
BUCK CREEK
BUCK CREEK - CENTRAL B.C.
1984 - 1985
SOIL GEOCHEMICAL SURVEY
NICKEL (ppm)

SCALE	1 : 10,000	DRAWN BY	
DATE	JUNE 1985	DRAFTED BY	E. B. W.

FIG. 4M



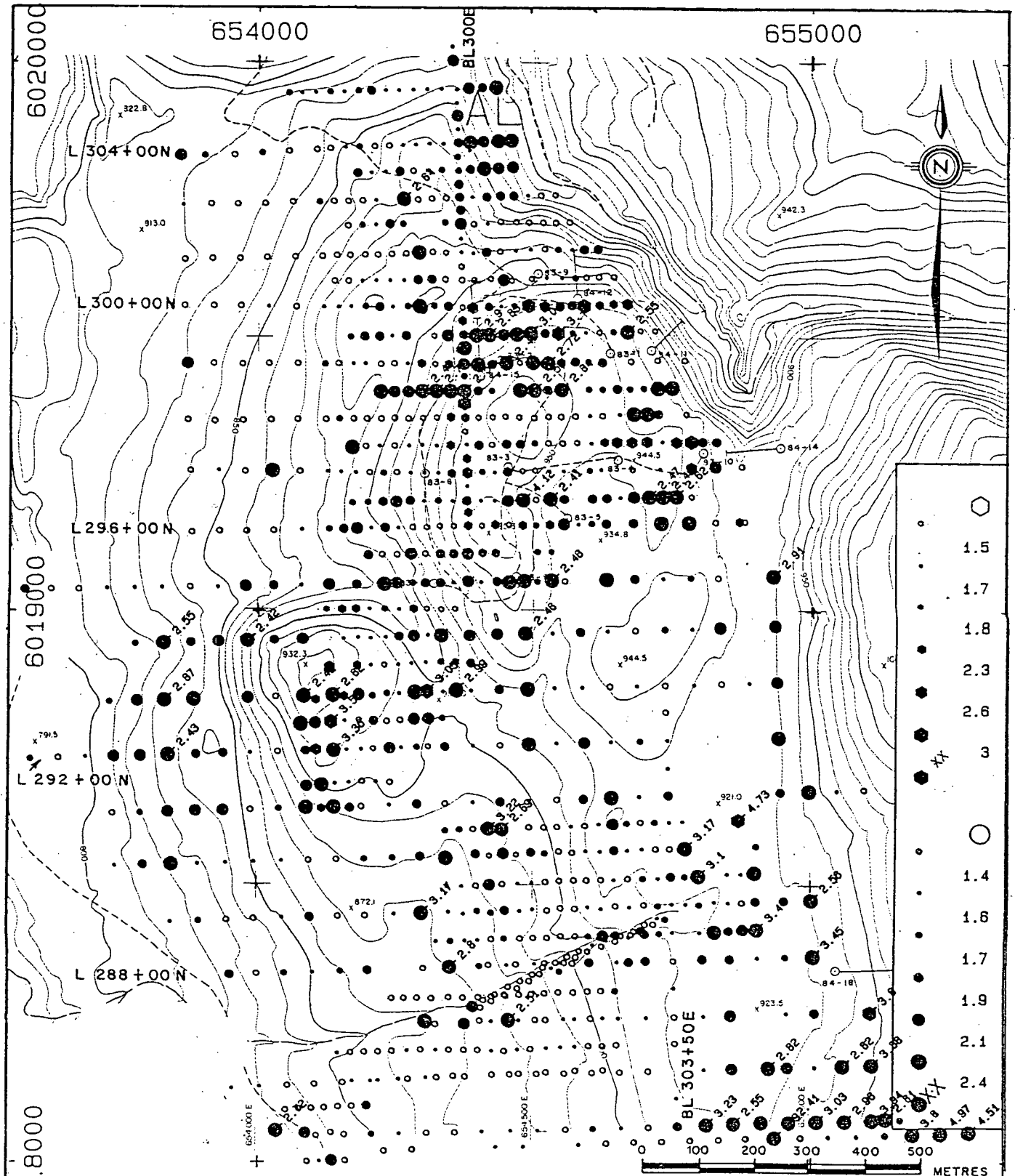
 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
BUCK CREEK BUCK CREEK - CENTRAL B.C. 1984 - 1985 SOIL GEOCHEMICAL SURVEY CADMIUM (ppm)		
SCALE	1 : 10,000	DRAWN BY: -
DATE	JUNE 1985	DRAFTED BY: E. B. W.
N.T.S. 93L / 7 PROJ. 10100 REPORT		FIG. 4N




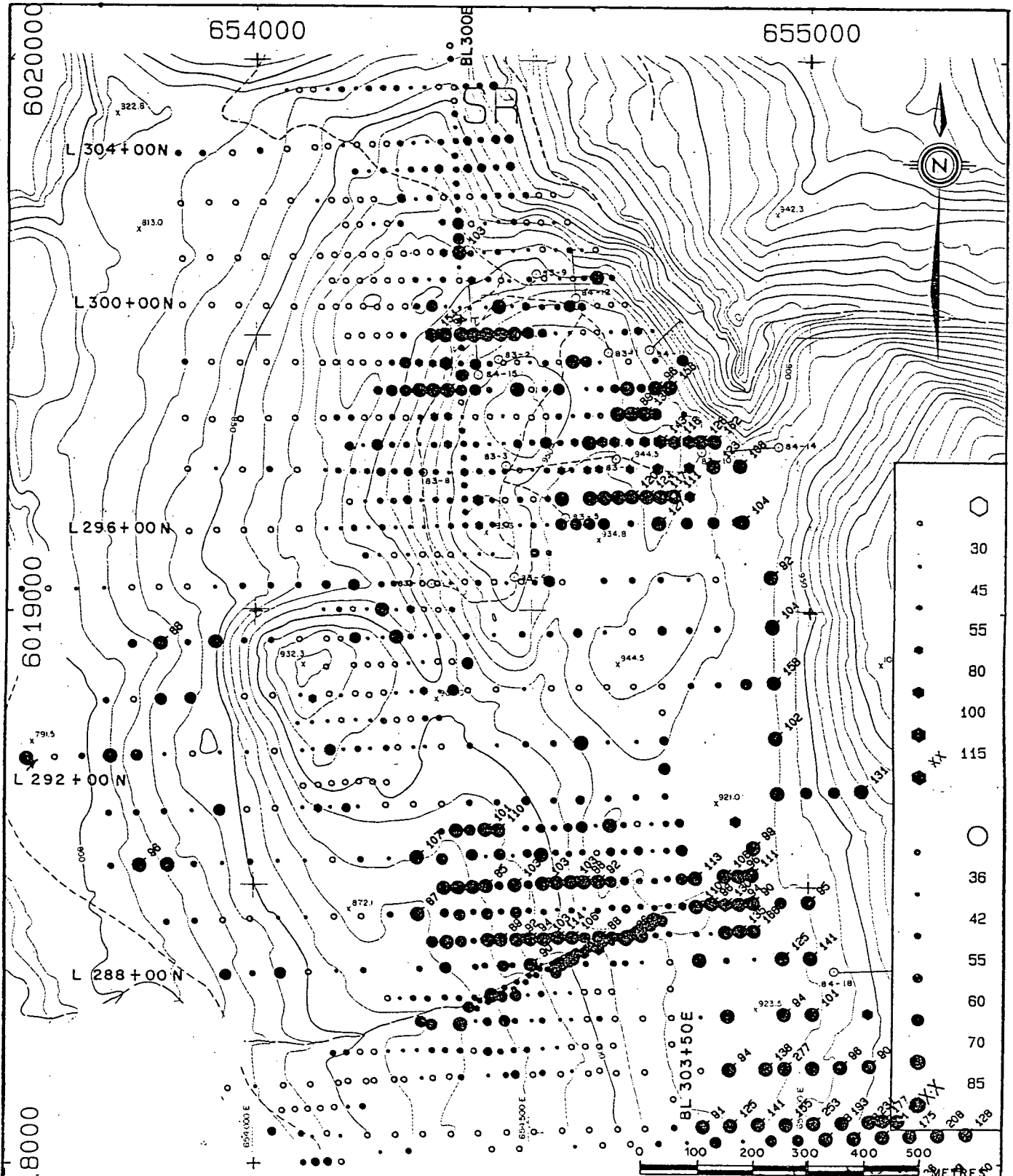
BP SELCO DIVISION -
BP RESOURCES CANADA LIMITED

BUCK CREEK
BUCK CREEK - CENTRAL B.C.
1984 - 1985
SOIL GEOCHEMICAL SURVEY
POTASSIUM (%)

SCALE	1 : 10,000	DRAWN BY:		FIG. 40
DATE	JUNE 1985	DRAFTED BY:	E. B. W.	
N.T.S. 93L / 7		PROJ.	10100	REPORT



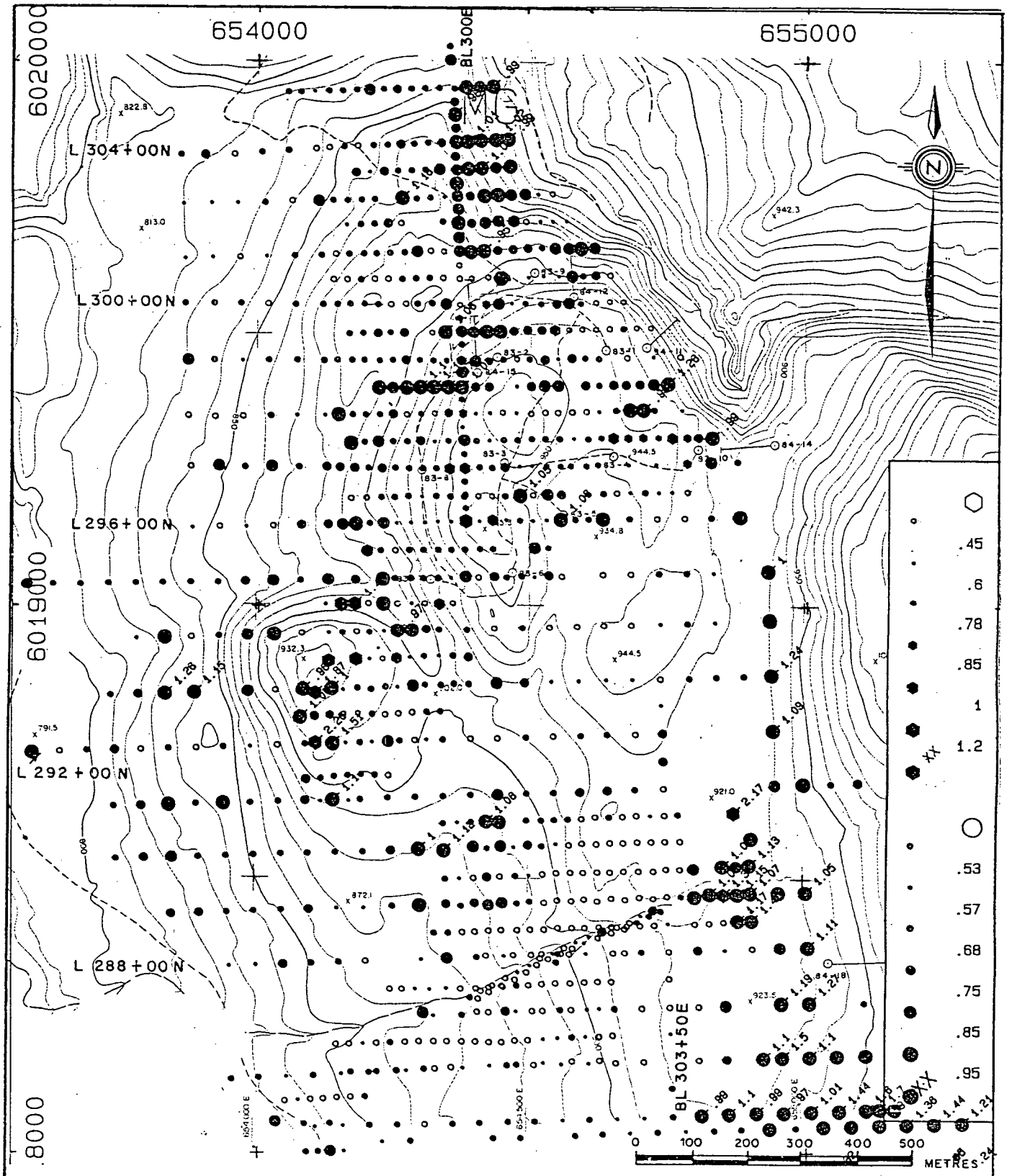
 SELCO DIVISION - BP RESOURCES CANADA LIMITED	
BUCK CREEK BUCK CREEK - CENTRAL B.C. 1984 - 1985 SOIL GEOCHEMICAL SURVEY ALUMINUM (%)	
SCALE 1:10,000	DRAWN BY:
DATE JUNE 1985	DRAFTED BY: E. B. W.
N.T.S. 93L/7	PRCJ. 10100
REPORT	FIG 4P




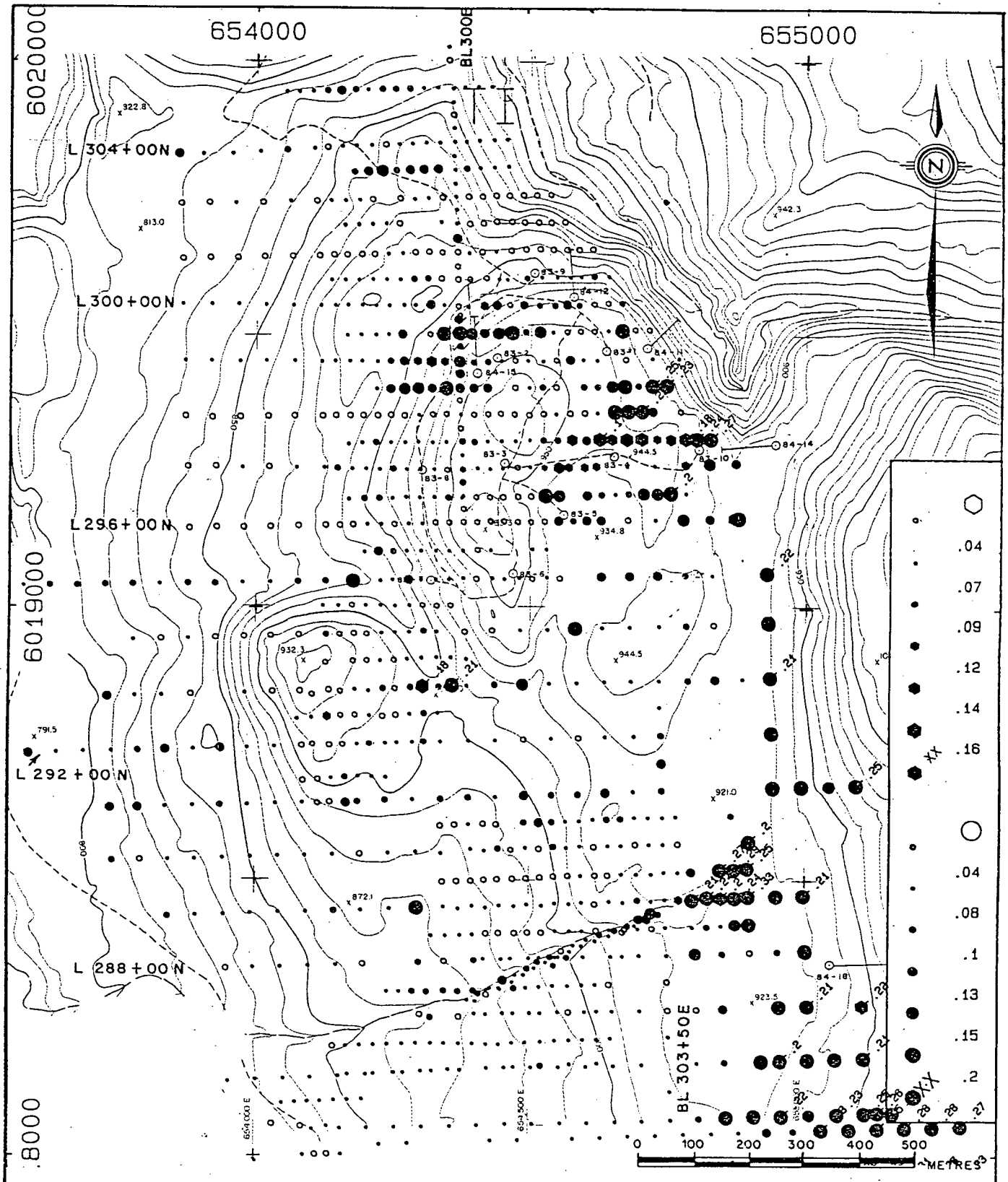
BP SELCO DIVISION -
BP RESOURCES CANADA LIMITED

BUCK CREEK
BUCK CREEK - CENTRAL B.C.
1984 - 1985
SOIL GEOCHEMICAL SURVEY
STRONTIUM (ppm)

SCALE	1 : 10,000	DRAWN BY:	
DATE	JUNE 1985	DRAFTED BY:	E. B. W.
M.T.S. 93L/7 PROJ. 10100 REPORT			FIG. 4R



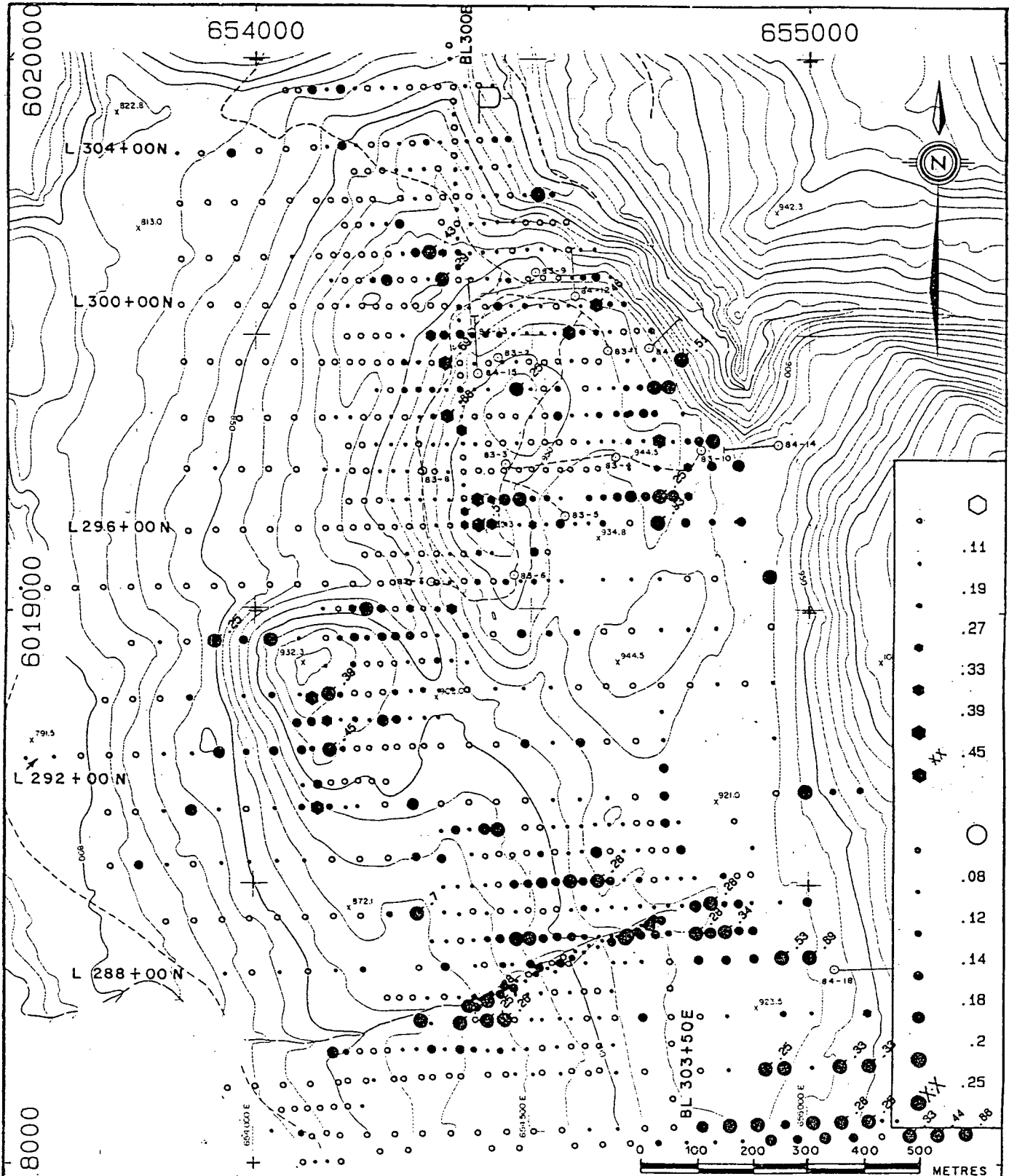
 SELCO DIVISION - BP RESOURCES CANADA LIMITED			
BUCK CREEK BUCK CREEK-CENTRAL B.C. 1984-1985 SOIL GEOCHEMICAL SURVEY MAGNESIUM (%)			
SCALE	1: 10,000	DRAWN BY:	
DATE	JUNE 1985	DRAFTED BY:	E. B. W.
N.T.S. 93L/7		PROJ. 10100	REPORT
			FIG. 4S



SELCO DIVISION -
BP RESOURCES CANADA LIMITED

BUCK CREEK
BUCK CREEK - CENTRAL B.C.
1984 - 1985
SOIL GEOCHEMICAL SURVEY
TITANIUM (%)

SCALE	1 : 10,000	DRAWN BY:		FIG. 4T
DATE	JUNE 1985	DRAFTED BY:	E. B. W.	
N.T.S. 93L / 7		PROJ. 10100	REPORT	




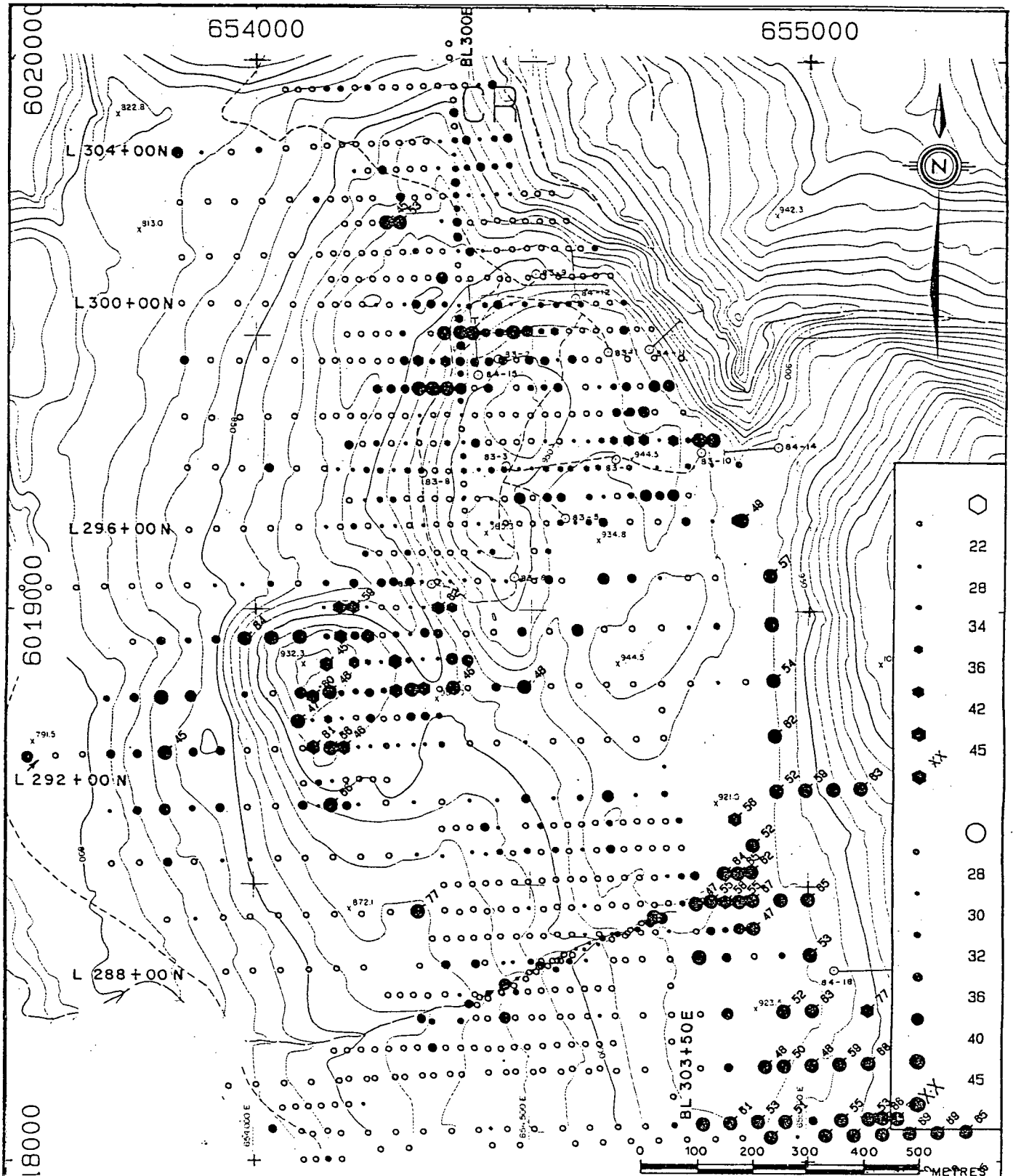
 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
BUCK CREEK BUCK CREEK-CENTRAL B.C. 1984-1985 SOIL GEOCHEMICAL SURVEY PHOSPHORUS (ppm)		
SCALE	1: 10,000	DRAWN BY:
DATE	JUNE 1985	DRAFTED BY: E. B. W.
N.T.S. 93L/7	PROJ. 10100	REPORT

FIG. 4U




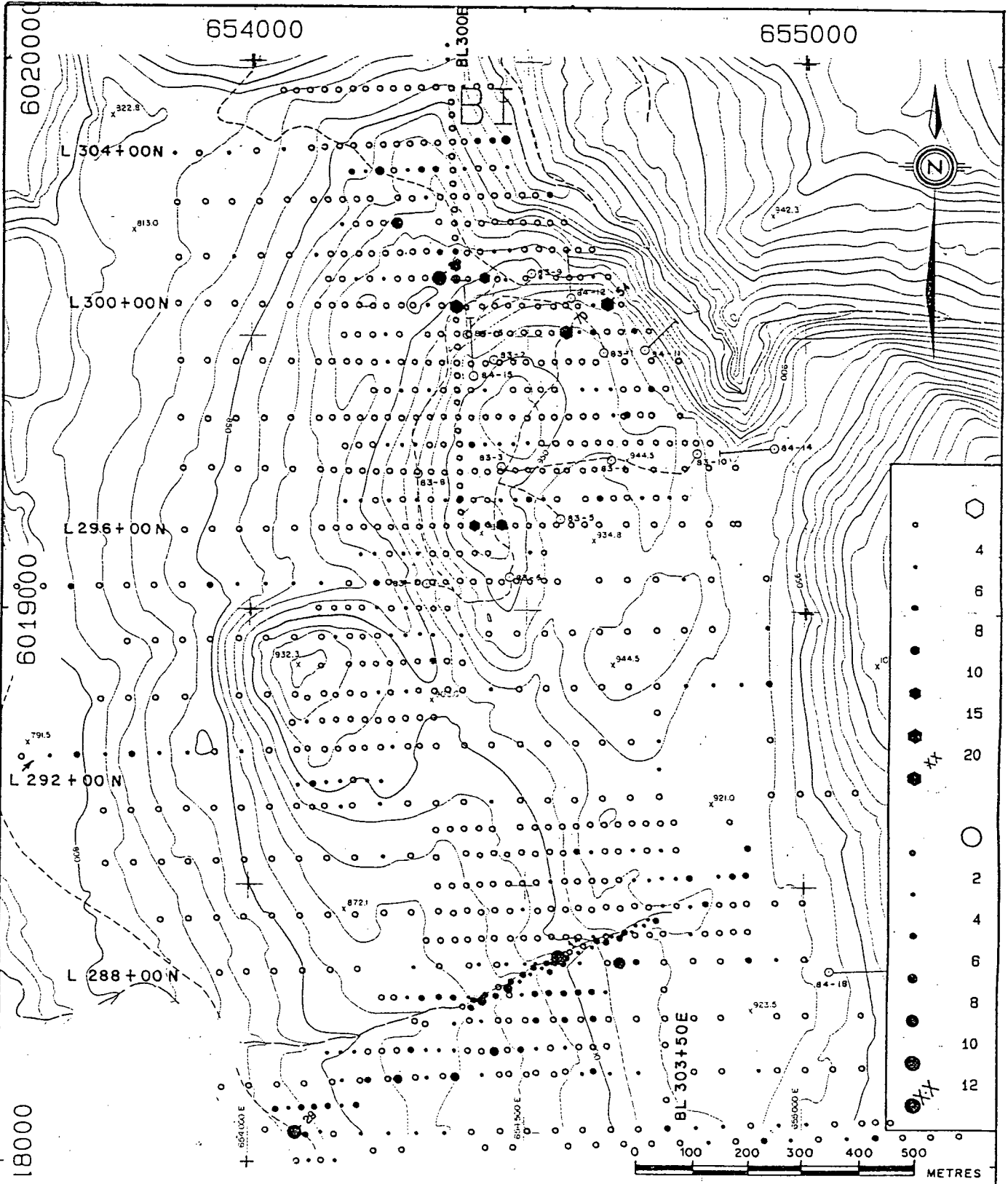
 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
BUCK CREEK BUCK CREEK - CENTRAL B.C. 1984 - 1985 SOIL GEOCHEMICAL SURVEY CHROMIUM (ppm)		
SCALE	1 : 10,000	DRAWN BY:
DATE	JUNE 1985	DRAFTED BY: E. B. W.
N.T.S. 93L/7	PROJ. 10100	REPORT

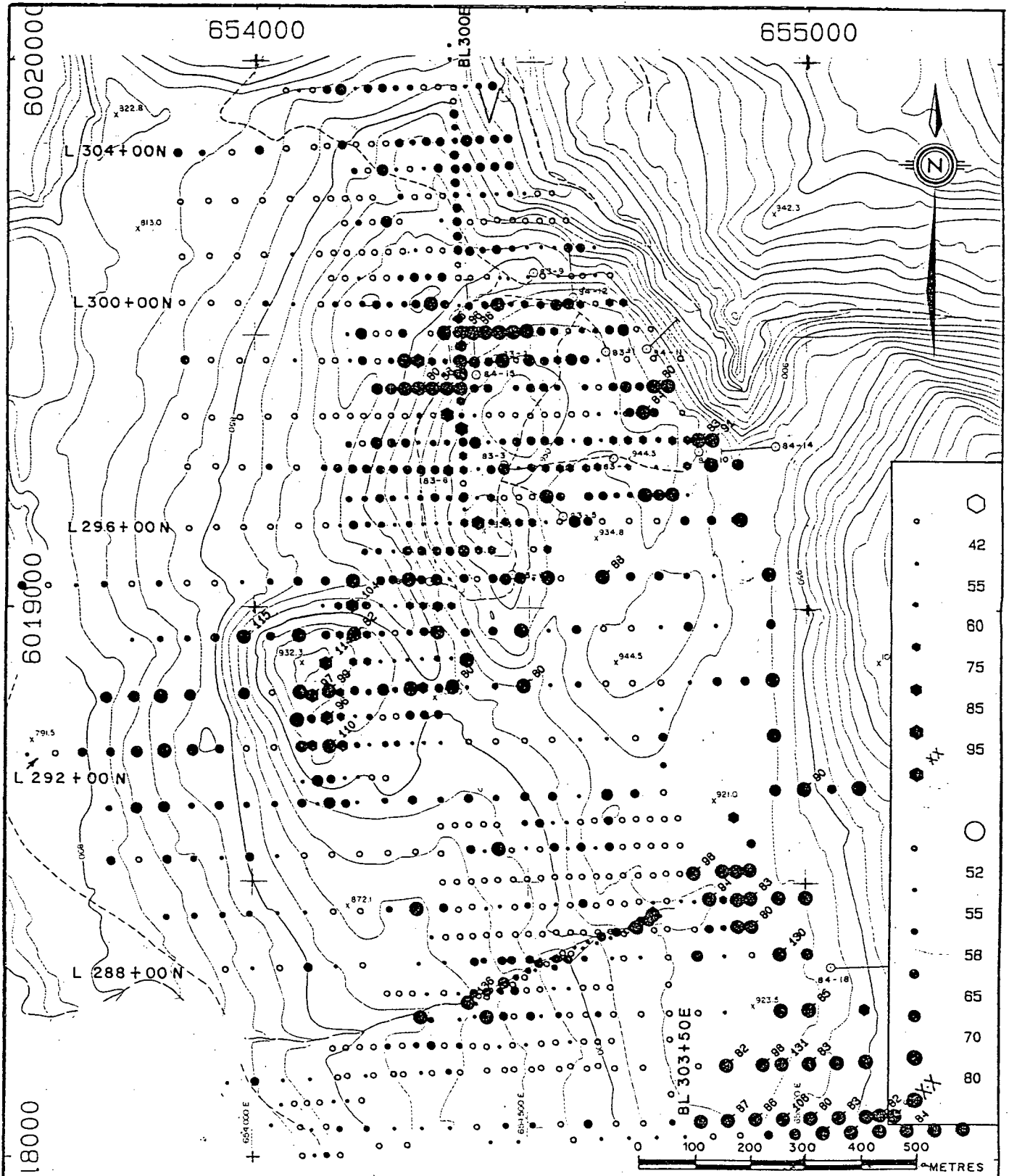
FIG. 4W




SELCO DIVISION -
BP RESOURCES CANADA LIMITED

BUCK CREEK
BUCK CREEK - CENTRAL B.C.
1984 - 1985
SOIL GEOCHEMICAL SURVEY
BISMUTH (ppm)

SCALE	1 : 10,000	DRAWN BY:		FIG. 4X
DATE	JUNE 1985	DRAFTED BY:	E. B. W.	
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 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
BUCK CREEK BUCK CREEK - CENTRAL B.C. 1984 - 1985 SOIL GEOCHEMICAL SURVEY VANADIUM (ppm)		
SCALE	1 : 10,000	DRAWN BY:
DATE	JUNE 1985	DRAFTED BY: E. B. W.
N.T.S. 93L / 7	PROJ. 10100	REPORT

anomalous areas and as such will not be expanded upon. Elements such as cadmium, potassium and bismuth exhibit minor enhancement over otherwise uniform background concentrations in proximity to the known anomalies. Nickel, aluminum, calcium, strontium, magnesium, titanium, lanthanum, chromium and vanadium mainly define changes in lithology. The tertiary andesites on the eastern grid edge are highlighted by uniform high levels of the aforementioned elements.

DISCUSSION OF RESULTS

Compilation of the element plots highlights four zones of multielement enrichment (Fig. 5). Anomaly scores are presented in Table 1. Scores are calculated using precious, base and pathfinder elements by assigning a value of 2 for each highly anomalous element, a 1 for each moderately anomalous element and then summing the scores for each zone.

TABLE 1: Element Associations in Anomalous Zones and Anomaly Scores Precious, Base and Pathfinder Elements

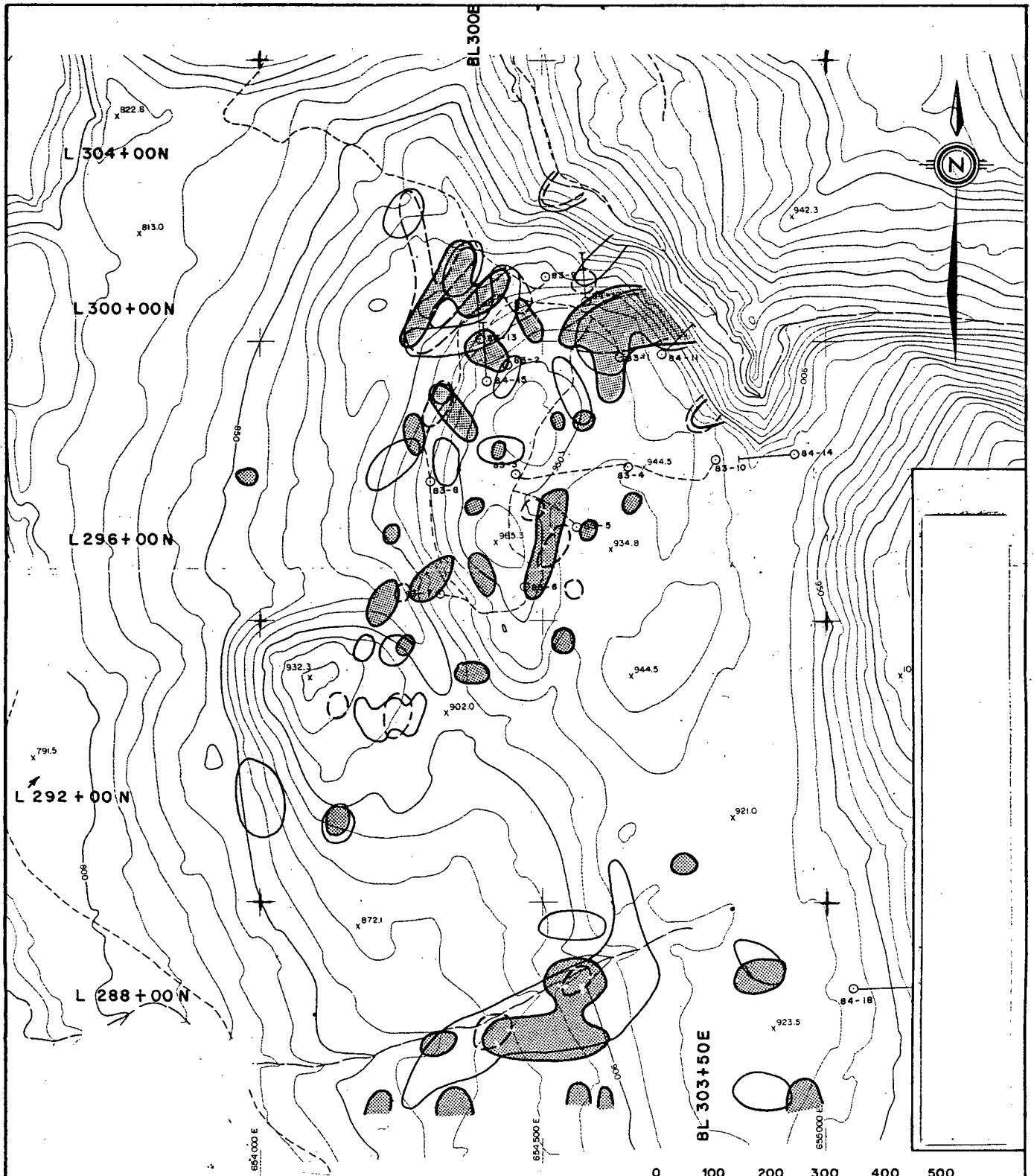
	1a	1b	1c	2	3	4
Gold	X	X		X	x	x
Silver	X	X	x	X	x	
Arsenic	X	X	X	X	X	x
Copper	x	x	x	x	x	
Lead	x	x		X	X	x
Zinc	X	X	X	X	X	x
Manganese	X	X	x	x	x	x
Iron	x	x	x	X	x	x
Antimony	x	x		x		
Molybdenum	x	x		x		
Anomaly Score	15	15	8	16	11	6

X - Highly Anomalous, Anomaly Score = 2

x - Moderately Anomalous. Anomaly Score = 1

The Main zone is highly anomalous in gold, silver, arsenic, zinc and manganese and moderately enriched in copper, lead, iron, antimony and molybdenum (Figs. 6A and 6B). Three subzones are definable (Fig. 5) subzones 1a and 1b are attributable to mineralization in bedrock denoted as the "A" and "C" zones in the Buck Creek report by Trinder and Rebagliati (1985). The soil anomalies are found overlying the bedrock mineralized zones and copy their trends. Zone "A" and "C" comprise disseminated and veinlet sulphides in a brecciated quartz feldspar porphyry with a greater concentration of sulphides in the "A" zone. Soil subzone 1c lies in a low flat area 100 m downslope of subzones 1b and 1c. Drilling has not uncovered a mineralized bedrock source for this subzone.

The East zone (multielement anomaly 2 on Figure 5) is highly anomalous in gold, silver, arsenic, lead, zinc and iron and moderately anomalous in copper, manganese, antimony and molybdenum (Figs. 6a and 6b). The anomaly score for the East zone (16) is comparable to the Main zone (15). Bedrock mineralization referred to as the "B" zone (Trinder and Rebagliati, 1985) is found beneath to slightly upice of the soil anomaly. Mineralization comprises vug concentrated sulphides hosted by brecciated: dacite tuff, QFP and QFP dyke.



-  **GOLD**
-  **ARSENIC**
-  **SILVER**


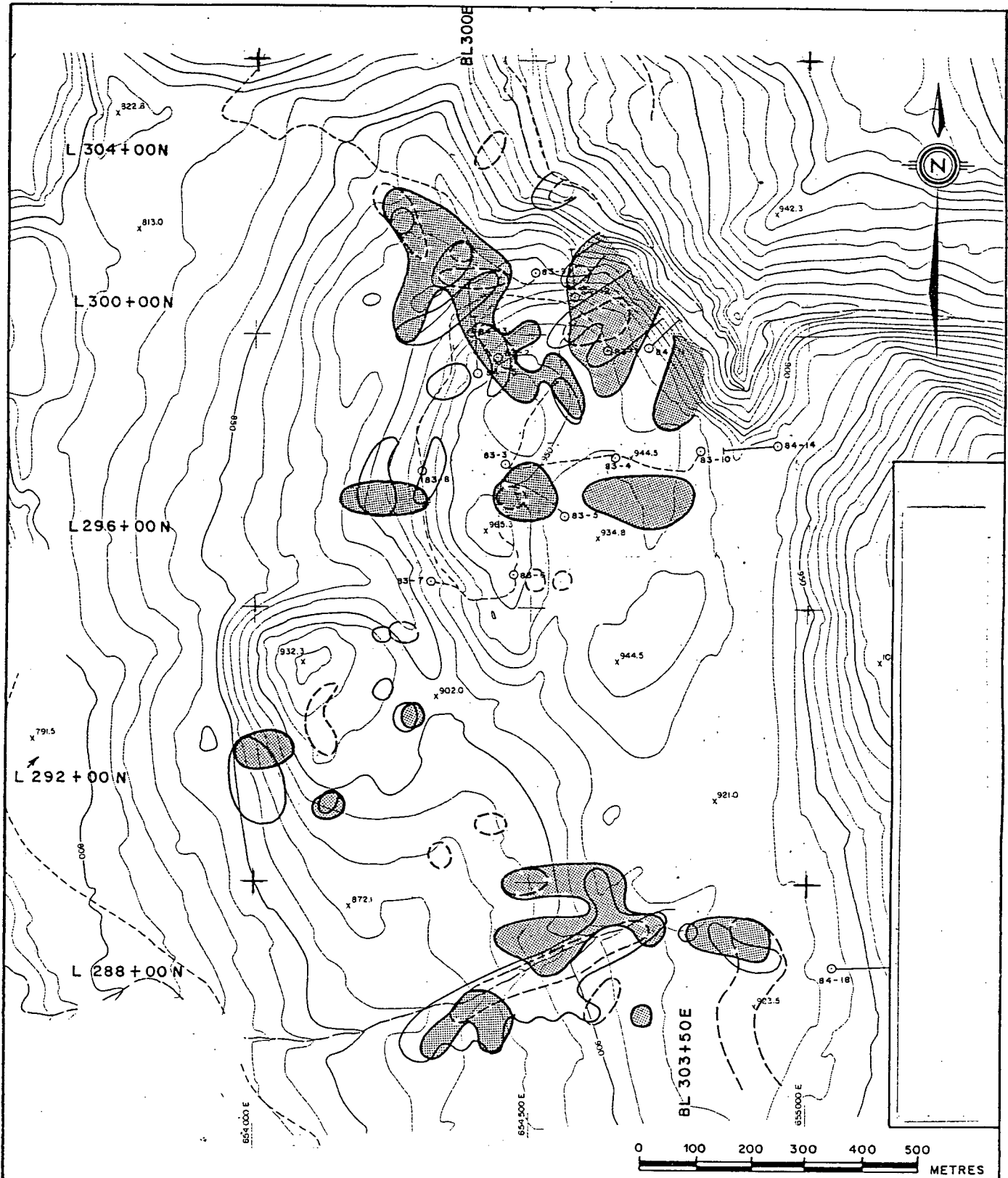

 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
BUCK CREEK BUCK CREEK - CENTRAL B. C. 1984 - 1985 SOIL GEOCHEMICAL SURVEY Au-Ag-As Compilation Map		
SCALE	1 : 10,000	DRAWN BY: -
DATE	JUNE 1985	DRAFTED BY: E. B. W.
N.T.S. 93L / 7	PROJ. 10100	REPORT

FIG. 6A



-  ZINC
-  LEAD
-  COPPER

 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
BUCK CREEK BUCK CREEK-CENTRAL B.C. 1984-1985 SOIL GEOCHEMICAL SURVEY Cu-Pb-Zn Compilation Map		
SCALE	1: 10,000	DRAWN BY:
DATE	JUNE 1985	DRAFTED BY: E. B. W.
N.T.S. 93L/7	PROJ. 10100	REPORT
		FIG. 6B

The Creek zone (multielement zone 3 on Figure 5) has high concentrations of arsenic, lead and zinc and lower enrichments of gold, silver, copper, manganese and iron (Figs. 6A and 6B). Diamond drilling immediately north of the zone has uncovered mineralized brecciated dacite tuff. Bedrock mineralization is consistent with the anomalous elements suite observed in the soil, arsenic being the most predominant element accompanied by sporadic enrichments of gold, silver, lead and zinc. Trend of the soil anomaly is due to downstream continuation of mineralized fragments derived from the breccia.

Multielement zone 4 (Figure 5) contains sporadic moderate enrichments in gold, arsenic, lead, zinc, manganese and iron (Figs. 6A and 6B). Source of the soil anomalies cannot be attributed to a bedrock source based on existing trench results. The soil anomalies are believed to be related to glacial dispersion of mineralized material derived from the Main and East zones.

REFERENCES

- Hoffman, S.J., 1984: Buck Creek Soil Geochemical orientation Study, Company Report BPVR 84-11.
- Trinder, I. and Rebagliati, C.M., 1984: Summary of 1984 Geology, Geochemistry and Diamond Drilling on the Buck Creek Property, Company Report BPVR 84-48.
- Trinder, I. and Rebagliati, C.M., 1985: Summary of 1985 Geology, Geochemistry and Diamond Drilling on the Buck Creek Property, Company Report BPVR 85-24.

APPENDIX 1
ANALYTICAL PROCEDURES

ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis

252 E. Hastings St., Vancouver, B.C. V5A 1R5

Telephone : 253 - 3153

Geochemical Analysis for Uranium

0.5 gram samples are digested with hot aqua regia and diluted to 10 ml.

Aliquots of the acid extract are solvent extracted using a salting agent and aliquots of the solvent extract are fused with NaF, K_2CO_3 and Na_2CO_3 flux in a platinum dish.

The fluorescence of the pellet is determined on the Jarrel Ash Fluorometer.

Geochemical Analysis for Fluorine

0.25 gram samples are fused with sodium hydroxide and leached with 10 ml water. The solution is neutralized, buffered, adjusted to pH 7.8 and diluted to 100 ml.

Fluorine is determined by Specific Ion Electrode using an Orion Model 404 meter.

Geochemical Analysis for Tin

1.0 gram samples are fused with ammonium iodide in a test tube. The iodine is leached with dilute hydrochloric acid.

The solution is extracted with MIBK and tin is determined in the extract by Atomic Absorption.

Geochemical Analysis for Chromium

0.1 gram samples are fused with Na_2O_2 . The melt is leached with HCl and analysed by AA or ICP.

Geochemical Analysis for Hg

0.5 gram samples is digested with aqua regia and diluted with 20% HCl.

Hg in the solution is determined by cold vapour AA using a F & J Scientific Hg assembly. An aliquot of the extract is added to a stannous chloride / hydrochloric acid solution. The reduced Hg is swept out of the solution and passed into the Hg cell where it is measured by AA.

Geochemical Analysis for Ga & Ge

0.5 gram samples are digested with hot aqua regia with HF in pressure bombs.

Ga and Ge in the solution are determined by graphite furnace AA.

Geochemical Analysis for Tl (Thallium)

0.5 gram samples are digested with 1:1 HNO_3 . Tl is determined in the extract by graphite AA.

Geochemical Analysis for Te (Tellurium)

0.5 gram samples are digested with hot aqua regia. The Te extracted in MIBK is analysed by AA graphite furnace.

ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis

352 E. Hastings St., Vancouver, B.C. V6A 1R6

Telephone : 253-3153

GEOCHEMICAL LABORATORY METHODOLOGY - 1984Sample Preparation

1. Soil samples are dried at 60°C and sieved to -80 mesh.
2. Rock samples are pulverized to -100 mesh.

Geochemical Analysis (AA and ICP)

0.5 gram samples are digested in hot dilute aqua regia in a boiling water bath and diluted to 10 ml with demineralized water. Extracted metals are determined by :

A. Atomic Absorption (AA)

Ag*, Bi*, Cd*, Co, Cu, Fe, Ga, In, Mn, Mo, Ni, Pb, Sb*, Tl, V, Zn
 (* denotes with background correction.)

B. Inductively Coupled Argon Plasma (ICP)

Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cu, Cr, Fe, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sr, Tn, Ti, U, V, W, Zn.

Geochemical Analysis for Au*

10.0 gram samples that have been ignited overnight at 600°C are digested with hot dilute aqua regia, and the clear solution obtained is extracted with Methyl Isobutyl Ketone.

Au is determined in the MIBK extract by Atomic Absorption using background correction (Detection Limit = 5 ppb direct AA and 1 ppb graphite AA.)

Geochemical Analysis for Au**, Pd, Pt, Rh

10.0 - 30.0 gram samples are subjected to Fire Assay preconcentration techniques to produce silver beads.

The silver beads are dissolved and Au, Pd, Pt and Rh are determined in the solution by graphite furnace Atomic Absorption.

Geochemical Analysis for As

0.5 gram samples are digested with hot dilute aqua regia and diluted to 10 ml. As is determined in the solution by Graphite Furnace Atomic Absorption (AA) or by Inductively Coupled Argon Plasma (ICP).

Geochemical Analysis for Barium

0.1 gram samples are digested with hot NaOH and EDTA solution, and diluted to 10 ml.

Ba is determined in the solution by Atomic Absorption or ICP.

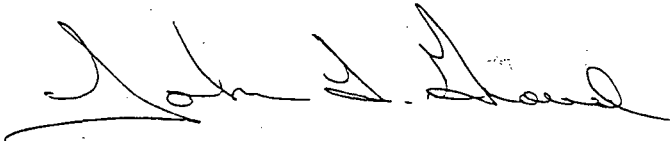
Geochemical Analysis for Tungsten

1.0 gram samples are fused with KCl, KNO₃ and Na₂CO₃ Flux in a test tube, and the fusions are leached with 20 ml water. W in the solution determined by ICP with a detection of 1 ppm.

APPENDIX 2
LIST OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

J.L. GRAVEL

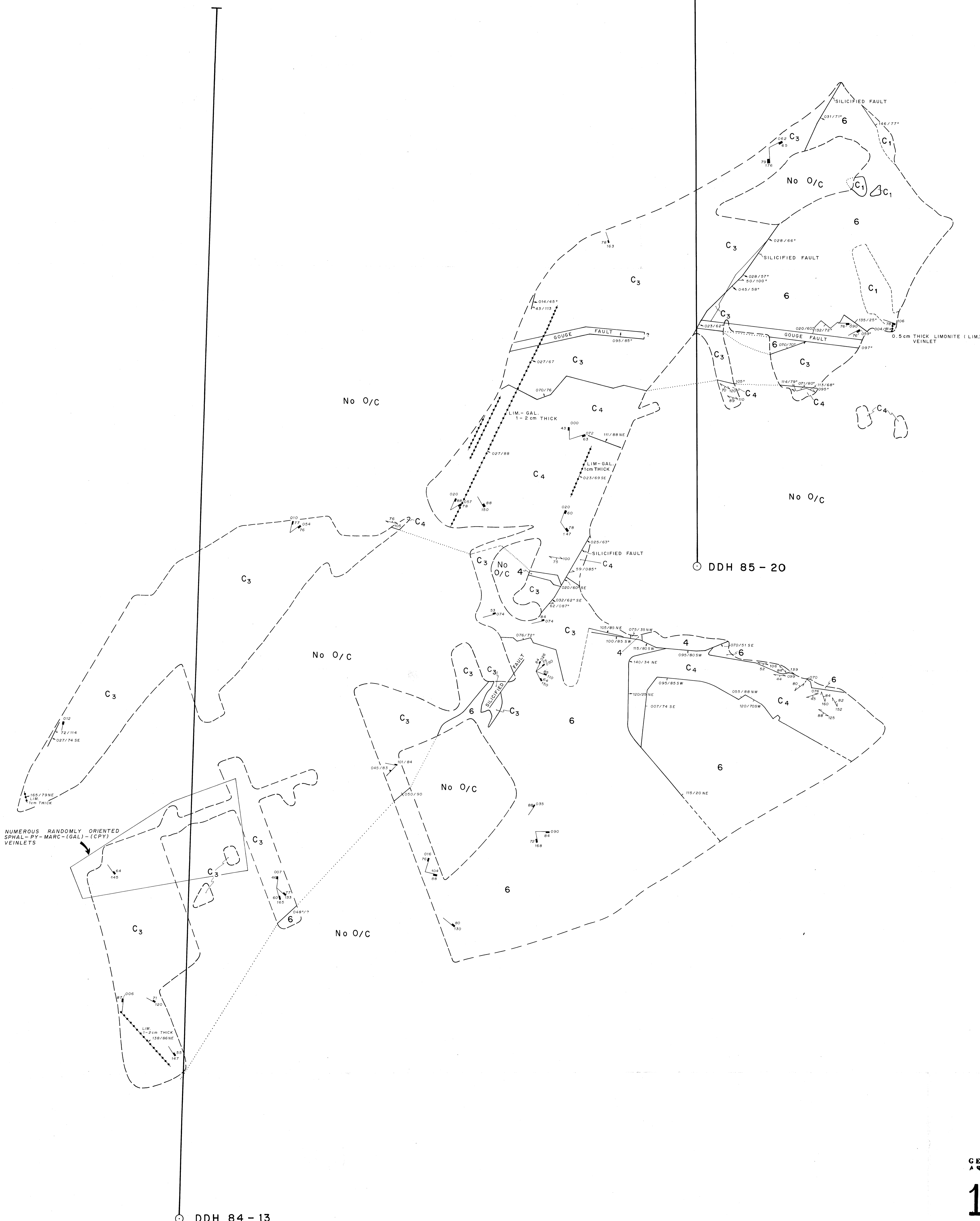
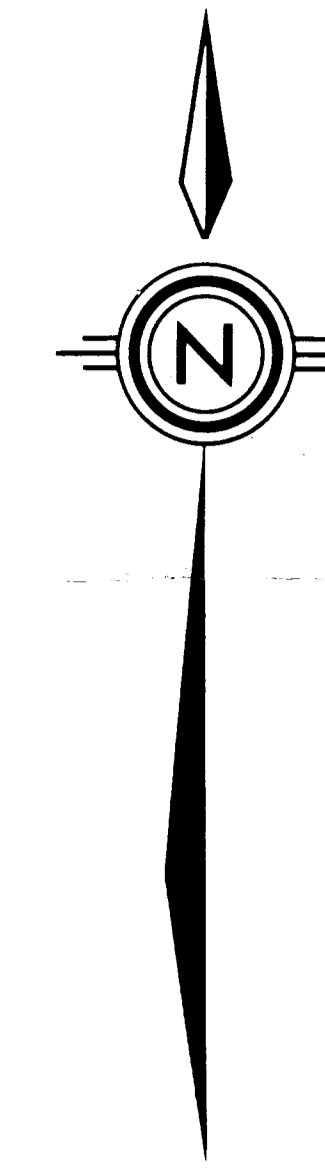


J.L. Gravel, M.Sc.A.

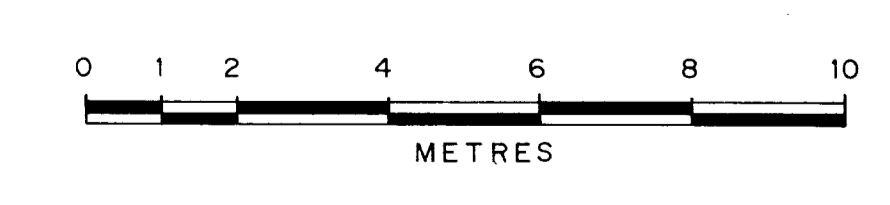
B.Sc. Geology, 1979
McGill University
Montreal, Quebec

M.Sc.A. Geology, 1985
McGill University
Montreal, Quebec

Member of Association of Exploration Geochemists.



NUMEROUS RANDOMLY ORIENTED
SPHAL-PY-MARC-(GAL)-(CPY)
VEINLETS

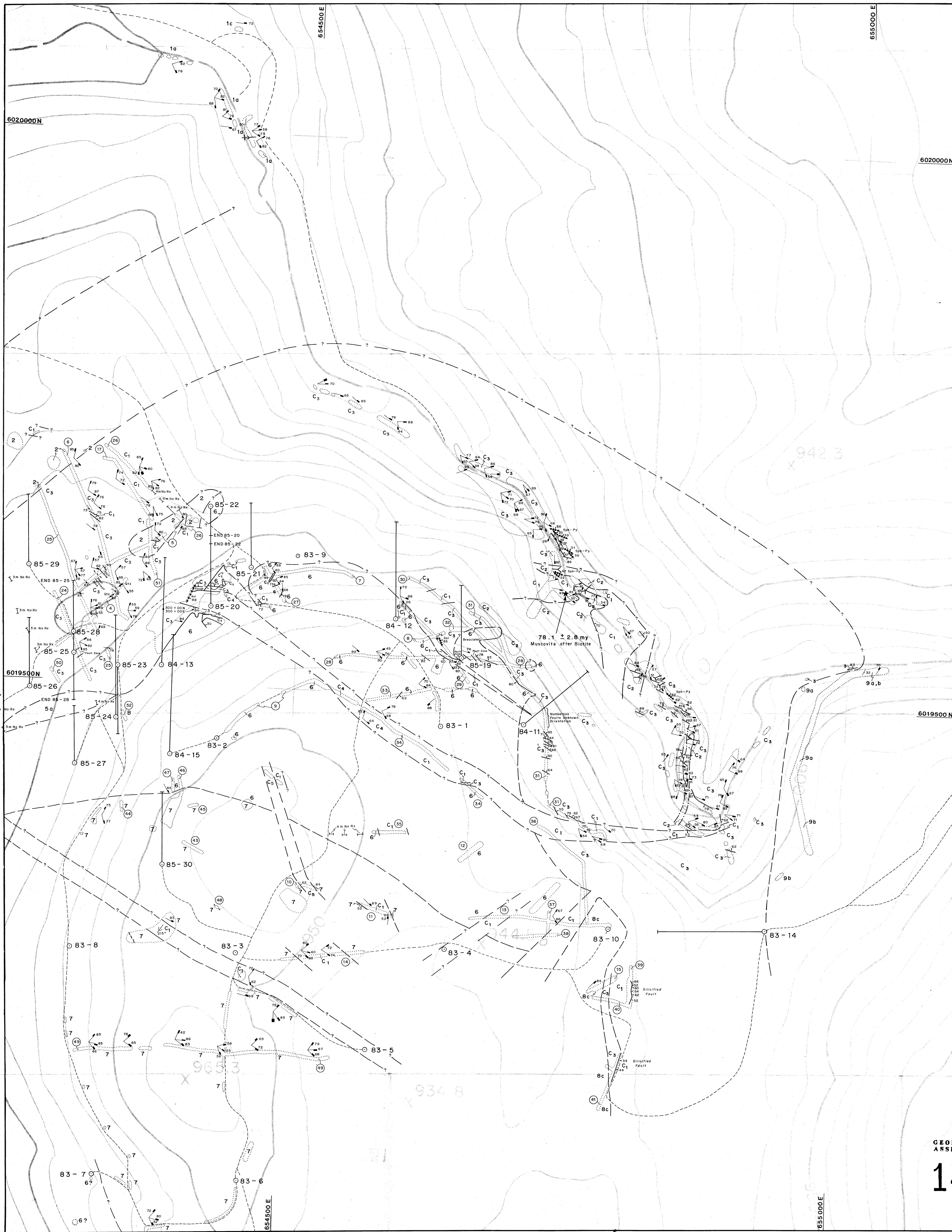


BP SELCO DIVISION -
BP BP RESOURCES CANADA LIMITED
ASSESSMENT REPORT
BUCK CREEK PROJECT
14,698 MINERAL GEOLOGY
(STIPPED AREA)

SCALE	1 : 100	DRAWN BY	I. TRINDER	FIG.	14
DATE	OCT '1985	DRAFTED BY	E. B. W.		
N.T.S.	93 L / 7	PROJ.	10100	REPORT	BPVR 85-24

DDH 84 - 13

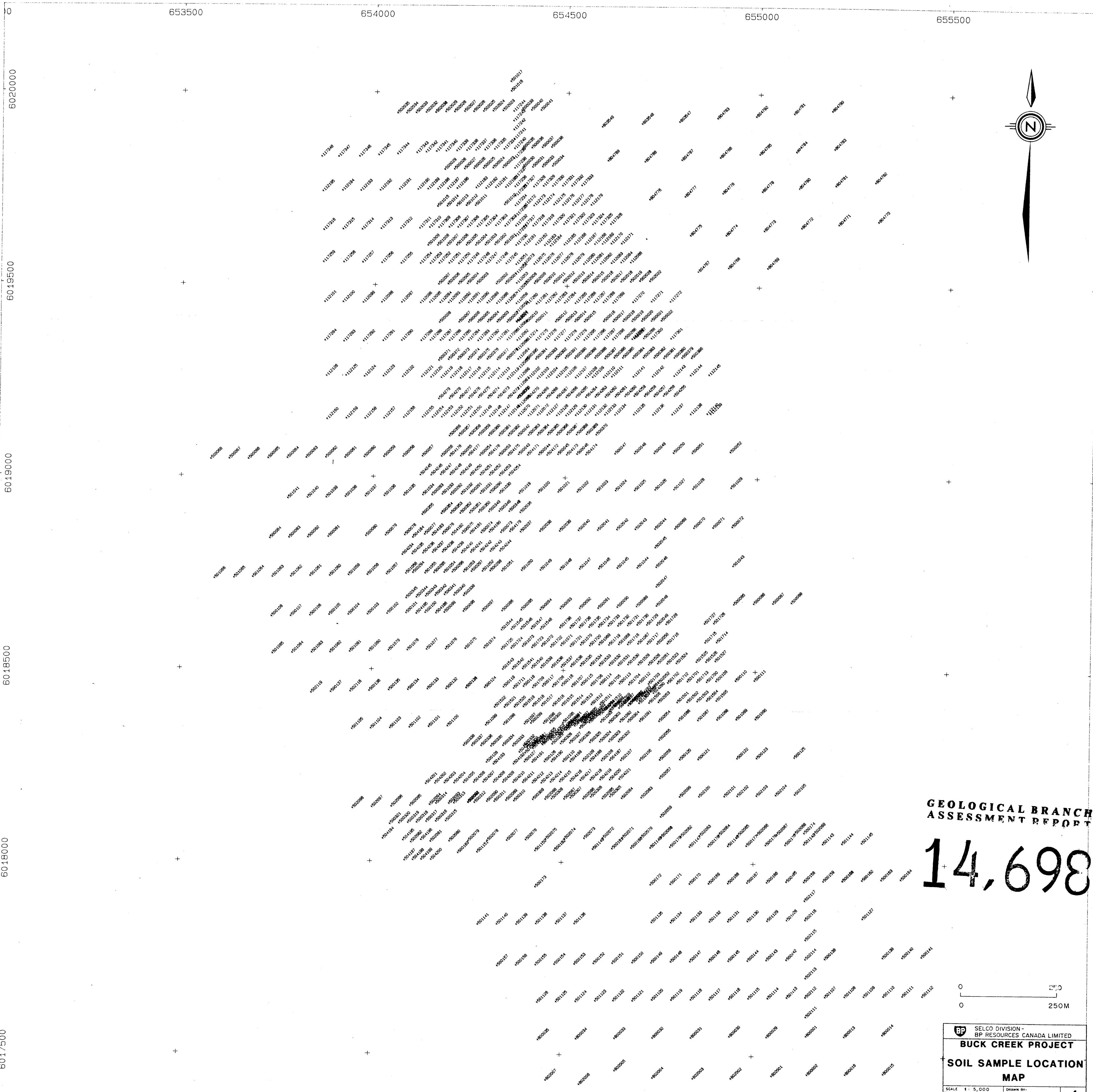
DDH 85 - 20



- LEGEND**
- BEDDED ROCKS**
- TERTIARY**
- 9 BUCK CREEK VOLCANIC ROCKS
a) Dacite ash and lapilli tuffs
b) Andesite to dacite flows and flow breccias
- JURASSIC**
- HAZELTON GROUP - TELKWA Fm - BABINE SHELF FACIES
- 8 GREY DACITE ASH TUFF
a) Massive
b) Brecciated
c) Bedded (Waterlain)
- 7 UPPER ANDESITE FLOW AND FLOW BRECCIA
- 6 MAROON TO GREY DACITE CRYSTAL AND CRYSTAL-LITHIC TUFF WITH MINOR ANDESITE TUFF
- 5 BLACK ARGILLITE
a) Very fine massive to bedded
b) Argillaceous greywacke
c) Grey mudstone
- 4 AQUAGENE ANDESITE TUFF
- 3 VOLCANIC DERIVED PEBBLE CONGLOMERATE
(± AQUAGENE TUFF & GREYWACKE INTERBEDS)
- 2 LOWER ANDESITE FLOW
- 1 DACITE TUFFS AND ANDESITE FLOWS
a) Maroon dacite crystal and crystal-lithic tuffs
b) Maroon dacite lapilli tuff
c) Purple dacite crystal-lithic tuff
d) Maroon andesite flow
e) Green andesite flow

- INTRUSIVE ROCKS**
- TERTIARY**
- E BUCK CREEK ANDESITE FEEDER DIKE
- D PULASKITE (ANDESITE) DIKE
- UPPER CRETACEOUS**
- C DUCK LAKE INTRUSIVE ROCKS
1) QFP Dike (QFP - Quartz - Feldspar Porphyry)
2) Coarse grained QFP breccia
3) Medium to fine grained QFP breccia
4) (Q)FP Dike
5) (QTZ) - Feldspar - biotite porphyritic dike
- JURASSIC TO MIDDLE CRETACEOUS**
- B APHANTIC RHYOLITE DIKE
- A GABBRO

- SYMBOLS**
- GEOLOGIC CONTACT**
- 50 Defined (strike and dip)
--- Approximate
--- Gradational
--- Inferred
--- Concealed
- FLOW BANDING**
- 76 Strike and dip
- BEDDING**
- 20 Strike and dip
20 Approximate strike and dip
Vertical bedding
- FAULTS**
- 35 Strike and dip
--- Approximate strike and dip
--- Concealed
35 Strike and dip of fault showing direction and plunge of slickensides
- JOINTS**
- 20 Strike and dip
--- Strike of a vertical joint
- SHEAR FOLIATION**
- 35 Strike and dip
- SHEAR ZONE**
- Unknown dip
- VEINLET**
- 20 Strike and dip with type of veinlet
- GLACIAL STRIATION**
- 215 Direction of movement
--- Adit
--- Test pit (with depth)
--- DDH inclined
--- Vertical (with year and hole number)
--- Trench number
--- Outcrop area
--- Access trail
★ Age date sample location (new 136)
- 0 20 40 60 80 100 METRES



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14,698



SELCO DIVISION - BP RESOURCES CANADA LIMITED	
BUCK CREEK PROJECT	
SOIL SAMPLE LOCATION MAP	
SCALE 1 : 5,000	DRAWN BY:
DATE JAN 1986	DRAFTED BY:
H.T.S. 93 L / 7	PROJ. 10100
REPORT BPVR 85-37	FIG 4

